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Updated: February 16, 2026

EDUCATION

- **Doctor of Philosophy** *August 2014 - May 2020*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Dissertation: Generation of Topological Interlocking Configurations from a Geometric Approach
 - Advisor: Dr. Christoph Hoffmann
- **Master of Science** *August 2014 - May 2017*
Purdue University, Department of Computer Science West Lafayette, IN, USA
- **Master's in Systems Engineering and Computation** *February 2009 - November 2012*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Thesis: NORIA: Node Reservation Intelligent Agent
 - Advisor: Dr. Jose Marquez
- **Bachelor's in Systems Engineering** *January 2004 - March 2009*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Final Project: Detection of Source Code Plagiarism in Programming Courses
 - Advisor: Dr. Lucy Garcia

PROFESSIONAL APPOINTMENTS

- **Assistant Teaching Professor (formerly Assistant Professor of Practice)** *August 2022 - Present*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Coordinate teams of 40+ reports, including Graduate Teaching Assistants (TAs) and Undergraduate TAs per semester.
 - Supervise software development, testing, and QA teams to create assessment activities.
 - Mentor and supervise graduate and undergraduate research assistants in Computer Science Education, Theoretical Computer Science, Artificial Intelligence, and Geometry Processing.
 - Develop and deliver core Computer Science, Data Science, and Artificial Intelligence courses.
 - Conduct scholarship of teaching and learning projects.
 - Collaborate with instructional specialists in managing course staff and assessment delivery.
- **Visiting Assistant Professor** *May 2020 - August 2022*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Coordinated teams of 20+ reports, including Graduate TAs and Undergraduate TAs per semester.
 - Supervised software development, testing, and QA teams to create assessment activities.
 - Mentored and supervised undergraduate research assistants in Artificial Intelligence and Geometry Processing.
 - Delivered core Computer Science and Data Science courses.
 - Collaborated with instructional specialists in managing course staff and assessment delivery.
- **Graduate Research Associate** *May 2016 - May 2020*
Purdue University, Rosen Center for Advanced Computing West Lafayette, IN, USA
 - Designed and proposed system architectures to support the curation, archiving, preservation, dissemination, and experiment replicability for multi-disciplinary research datasets.
 - Contributed to the codebase of interfaces compatible with HubZero.

- **Software Engineer Intern** May 2018 - August 2018
 NVIDIA Co., DirectX Driver Development Team Durham, NC, USA

 - Improved the internal APIC minimizer debugging tool by including automatic resource and draw call identification in an APIC trace for rendering on a region of interest in a frame.
- **Graduate Teaching Assistant** August 2014 - May 2016
 Purdue University, Department of Computer Science West Lafayette, IN, USA

 - Assisted instructors with delivering material and assessment activities for undergraduate courses.
 - Designed and developed software for assessment activities.
 - Provided discussions and review sessions to clarify concepts on algorithms, data structures, and computer graphics.
 - Designed course evaluation activities.
- **Research Assistant** March 2014 - March 2015
 Universidad del Norte, GRECIS Research Group Barranquilla, Colombia

 - Explored the applications and trends of smart home environments from research publications and existing commercial solutions.
 - Proposed the architecture of a low-cost smart home system based on embedded hardware.
- **Adjunct Professor** July 2010 - June 2014
 Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia

 - Instructed on Algorithms and Programming, Fundamentals of Computer Graphics, Mobile App Development, and Multimedia for Communications.
 - Advised 6 senior final project groups (10 students in total).
- **Software Engineer** September 2011 - November 2011
 Universidad del Norte, Information Technology and Communications Office Barranquilla, Colombia

 - Designed and developed web platforms to manage user-access privileges to selected systems and internal databases.
 - Managed the university's online radio station server and antispam services.
- **Research Assistant** February 2009 - December 2009
 Universidad del Norte, TRANVIA Research Group Barranquilla, Colombia

 - Supported the survey data collection activities by curating and managing the collected data.
 - Led survey activities for international air traveler data collection.

CONFERENCE AND JOURNAL PUBLICATIONS

C=CONFERENCE, J=JOURNAL, U=UNDER REVIEW

- [C] Juliana Nieto-Cardenas, Erin Joy Kramer, Peter Kurto, Ethan Dickey, and **Andres Bejarano**. 2026. "Owlgorithm: Supporting Self-Regulated Learning in Competitive Programming through LLM-Driven Reflection". In Proceedings of the 57th ACM Technical Symposium on Computer Science Education V.1 (SIGCSE TS 2026), Vol. 1. Association for Computing Machinery, New York, NY, USA, 757763. [10.1145/3770762.3772662](https://doi.org/10.1145/3770762.3772662)
- [C] E. Dickey and **A. Bejarano**, "GAIDE: A Framework for Using Generative AI to Assist in Course Content Development", 2024 IEEE Frontiers in Education Conference (FIE), Washington, DC, USA, 2024, pp. 1-9, doi: [10.1109/FIE61694.2024.10893132](https://doi.org/10.1109/FIE61694.2024.10893132)
- [C] A. Sinha, S. Goyal, Z. Sy, R. Kuperus, E. Dickey and **A. Bejarano**, "BoilerTAI: A Platform for Enhancing Instruction Using Generative AI in Educational Forums", 2024 IEEE Frontiers in Education Conference (FIE), Washington, DC, USA, 2024, pp. 1-8, doi: [10.1109/FIE61694.2024.10893137](https://doi.org/10.1109/FIE61694.2024.10893137)
- [J] **Bejarano A.**, Moran K. "Multistep Evolution Method to Generate Topological Interlocking Assemblies." Applied Sciences 2024, 14(15):6542. <https://doi.org/10.3390/app14156542>
- [J] Dickey, E., **Bejarano, A.**, Garg, C. "AI-Lab: A Framework for Introducing Generative Artificial Intelligence Tools in Computer Programming Courses." SN COMPUT. SCI. 5, 720 (2024). <https://doi.org/10.1007/s42979-024-03074-y>
- [J] Hewa Nadungodage, C., Catlin, A. C., **Bejarano, A.**, Clark, S., Wickramaarachchi, G., Fernando, S., Desigavinayagam, P. "The DEEDS platform: Support for integrated data and computing across the research lifecycle." Future Generation Computer Systems (2020). <https://doi.org/10.1016/j.future.2019.10.031>

- [C] **Bejarano, A.**, Hoffmann, C. "TIGER: Topological Interlocking GEnerator." In 2020 IEEE Games, Multimedia, Animation and Multiple Realities Conference (GMAX), September 17-18, 2020, Universidad del Norte, Barranquilla, Colombia. <https://doi.org/10.1109/GMAX49668.2020.9256836>
- [J] **Bejarano, A.**, Hewa Nadungodage, C., Wang, F., Catlin, A. C., Hoag, S. W. "Decision Support for Excipient Risk Assessment in Pharmaceutical Manufacturing." AAPS PharmSciTech, 20(6), 223. (2019). <https://doi.org/10.1208/s12249-019-1440-x>
- [J] **Bejarano, A.**, Hoffmann, C. "A Generalized Framework for Designing Topological Interlocking Configurations." International Journal of Architectural Computing, 17(1), 5373. (2019). <https://doi.org/10.1177/1478077119827187>
- [J] Catlin, A. C., Hewa Nadungodage, C., **Bejarano, A.** "Lifecycle Support for Scientific Investigations: Integrating Data, Computing, and Workflows." Computing in Science & Engineering, 21(4), 4961. (2019). <https://doi.org/10.1109/MCSE.2019.2901433>
- [C] Catlin, A. C., Hewa Nadungodage, C., Clark, S., Fernando, S., Wickramaarachchi, G., **Bejarano, A.**, Patil, O. "Fully Integrating Data with Compute Workflows: A Platform to Better Serve Scientific Research." Gateways 2018: The 13th Gateway Computing Environments Conference. Presented at the University of Texas at Austin. (2018). <https://doi.org/10.6084/m9.figshare.7038758.v2>
- [C] **Bejarano, A.**, Hoffmann, C. "Topological Interlocking Cylinder Configurations: A Geometric Approach." In T. Siegmund & F. Barthelat (Eds.) Proceedings of the IUTAM Symposium Architected Materials Mechanics, September 17-19, 2018, Chicago, IL: Purdue University Libraries Scholarly Publishing Services, 2018. <https://docs.lib.purdue.edu/iutam/presentations/abstracts/9>
- [J] Catlin, A. C., Hewa Nadungodage, C., Laughery, L., Sim, C., Puranam, A., **Bejarano, A.** "A Cyberplatform for Sharing Scientific Research Data at DataCenterHub." Computing in Science & Engineering, 20(3), 4970. (2018). <https://doi.org/10.1109/MCSE.2017.3301213>
- [J] **Bejarano, A.**, Jindal, A., Bhargava, B. "Measuring Users Influence in the Yelp Recommender System." PSU Research Review, 1(2), 91104. (2017). <https://doi.org/10.1108/PRR-02-2017-0016>
- [J] **Bejarano, A.**, Fernandez, A., Jimeno, M., Salazar, A., Wightman, P. "Towards the Evolution of Smart Home Environments: A Survey." International Journal of Automation and Smart Technology, 6(3), 105136. (2016). <http://dx.doi.org/10.5875/ausmt.v6i3.1039>
- [C] **Bejarano, A.**, Morales, G. "Solving real problems supported by corporative IT tools: A New Strategy of Professional Experience from the Classroom." World Engineering Education Forum WEEF 2013, Cartagena, Colombia. <https://acofipapers.org/index.php/acofipapers/2013/paper/viewFile/314/166>
- [C] **Bejarano, A.**, Morales, G., Rodriguez, M., Wightman, P. "Strategies for Professional Skill Development through the Strengthening of Student Groups: A Case of Study." World Engineering Education Forum WEEF 2013, Cartagena, Colombia. <https://acofipapers.org/index.php/acofipapers/2013/paper/viewFile/313/165>
- [J] **Bejarano, A.**, Garcia, L., Zurek, E. "Detection of Source Code Similitude in Academic Environments." Computer Applications in Engineering Education, 23(1), 1322. (2013). <https://doi.org/10.1002/cae.21571>

PREPRINTS

A=ARXIV

- [A] Juliana Nieto-Cardenas, Erin Joy Kramer, Peter Kurto, Ethan Dickey, **Andres Bejarano** (2025), "Owlgorithm: Supporting Self-Regulated Learning in Competitive Programming through LLM-Driven Reflection." <https://arxiv.org/abs/2511.09969>
- [A] Dickey, E., **Bejarano, A.**, Kuperus, R., Fagundes, B. (2025), "Evaluating the AI-Lab Intervention: Impact on Student Perception and Use of Generative AI in Early Undergraduate Computer Science Courses." <https://arxiv.org/abs/2505.00100>
- [A] Sinha, A., Goyal, S., Sy, Z., Kuperus, R., Dickey, E., **Bejarano, A.** (2024), "BoilerTAI: A Platform for Enhancing Instruction Using Generative AI in Educational Forums." <https://arxiv.org/abs/2409.13196>
- [A] Dickey, E., **Bejarano, A.**, Garg, C. (2023). "Innovating Computer Programming Pedagogy: The AI-LAB Framework for Generative AI Adoption." <https://arxiv.org/abs/2308.12258>
- [A] Dickey, E., **Bejarano, A.** (2023). "A Model for Integrating Generative AI into Course Content Development." <https://arxiv.org/abs/2308.12276>

- [C] Juliana Nieto-Cardenas, Erin Joy Kramer, Peter Kurto, Ethan Dickey, and **Andres Bejarano**. 2026. "Owlgorithm: Supporting Self-Regulated Learning in Competitive Programming through LLM-Driven Reflection". In the 57th ACM Technical Symposium on Computer Science Education V.1 (SIGCSE TS 2026). February 18-21, 2026, St. Louis, MO.
- [P] Quiondriya Gee, Houyame Lkhider, Ethan Dickey, and **Andres Bejarano**. 2026. Preparing Graduate Teaching Assistants with Structured Orientation and AI-Simulated Students. In Proceedings of the 57th ACM Technical Symposium on Computer Science Education V.2 (SIGCSE TS 2026), Vol. 2. Association for Computing Machinery, New York, NY, USA, 13471348. <https://doi.org/10.1145/3770761.3777359>
- [P] Ethan Dickey, Ashok Saravanan, Alexander Siladie, Houyame Lkhider, Quiondriya Gee, and **Andres Bejarano**. 2026. GLOW: AI-Simulated Students Improve GTA Readiness. In Proceedings of the 57th ACM Technical Symposium on Computer Science Education V.2 (SIGCSE TS 2026), Vol. 2. Association for Computing Machinery, New York, NY, USA, 12911292. <https://doi.org/10.1145/3770761.3777354>
- [T] **Andres Bejarano**, "From Printing Press to ChatGPT: Lessons for Education in the Age of AI." In the RCAC Cyberinfrastructure Symposium, October 23, 2025, Purdue University, West Lafayette, IN. <https://www.rcac.purdue.edu/symposiums/cyberinfrastructure/wl-2025>
- [T] **Andres Bejarano**, "Navigating GenAI in CS Education Without Getting Hurt Badly." In the 2nd Colombian Academic Diaspora Symposium, May 29-30, 2025, Purdue University, West Lafayette, IN.
- [P] **Andres Bejarano**, Ethan Dickey, and Rhianna Setsma. "Implementing the AI-Lab Framework: Enhancing Introductory Programming Education for CS Majors." In Proceedings of the 56th ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE TS 2025). Association for Computing Machinery, New York, NY, USA, 13831384. <https://doi.org/10.1145/3641555.3705201>
- [C] Dickey, E., **Bejarano, A.** "GAIDE: A Framework for Using Generative AI to Assist in Course Content Development." 2024 IEEE Frontiers in Education Conference (FIE), October 13-16, 2024, Washington D.C.
- [C] Sinha, A., Goyal, S., Will, Z., Kuperus, R., Dickey, E., **Bejarano, A.** "BoilerTAI: A Platform for Enhancing Instruction Using Generative AI in Educational Forums." 2024 IEEE Frontiers in Education Conference (FIE), October 13-16, 2024, Washington D.C.
- [T] **Bejarano, A.** "Reflecting on Teaching and Scholarship After a Student Says Thank You". In Colloquium of the Department of Computer Science, February 2, 2022, Purdue University, West Lafayette, IN.
- [C] **Bejarano, A.**, Hoffmann, C., "TIGER: Topological Interlocking GEnerator". In IEEE GMAX 2020, September 17-18, 2020, Universidad del Norte, Barranquilla, Colombia.
- [T] Wightman, P., Salazar, A., **Bejarano, A.** "IEEE 2020 Technology Trends." In Department of Systems Engineering and Computation, May 13, 2020. Universidad del Norte.
- [T] **Bejarano, A.**, "Generation of Topological Interlocking Configurations from a Geometric Approach." In CGVLAB Lunch Talk, April 15, 2020, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Equilibrium of Compression-Only Structures Made of Convex Polyhedra." In CGVLAB Lunch Talk, September 11, 2019, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Dealing with Shape, Simulation, and Equilibrium of Convex Interlocking Assemblies." In CGVLAB Lunch Talk, February 5, 2019, Purdue University, West Lafayette, IN.
- [P] **Bejarano, A.**, Hoffmann, C., "Topological Interlocking Cylinder Configurations: A Geometric Approach." In IUTAM 2018 Symposium of Architected Materials Mechanics. August 2018, Chicago, IL.
- [T] **Bejarano, A.**, "Topological Interlocking Cylinder Configurations: A Geometric Approach." In CGVLAB Lunch Talk, September 18, 2018, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Convex Interlocking Generation Based on Polyhedron Midsection Evolution." In CGVLAB Lunch Talk, April 17, 2018, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Challenges on the Construction of Topological Interlocking Configurations on Solids and Meshes." In CGVLAB Lunch Talk, September 19, 2017, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Topological Interlocking: Life Beyond the Plane." In CGVLAB Lunch Talk, February 8, 2017, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "A Glimpse of Topological Interlocking Configurations." In CGVLAB Lunch Talk, September 21, 2016, Purdue University, West Lafayette, IN.
- [T] **Bejarano, A.**, "Assemblable Interlocking Polyominoes." In CGVLAB Lunch Talk, April 13, 2016, Purdue University, West Lafayette, IN.

- [C] **Bejarano, A.,** Morales, G. "Solving real problems supported by corporative IT tools: A new strategy of professional experience from the classroom." In Teaching Innovation International Forum, Innova CESAL Network, October 8-10, 2013, Bogota, Colombia.
- [C] **Bejarano, A.** "Experiences, Results, and Expectations from the Systems Engineering Computer Graphics Student Group at Uninorte." In Bogota SIGGRAPH 2013. Bogota, Colombia.
- [P] **Bejarano, A.,** Morales, G. "Solving real problems supported by corporative IT tools: A new strategy of professional experience from the classroom." In World Engineering Education Forum WEEF 2013, September 25-26, 2013, Cartagena, Colombia.
- [C] **Bejarano, A.,** Morales, G., Rodríguez, M., Wightman, P. "Strategies for Professional Skill Development Through the Strengthening of Student Groups: A Case of Study." In World Engineering Education Forum WEEF 2013, September 25-26, 2013, Cartagena, Colombia.
- [P] **Bejarano, A.,** Gomez, A., Guzman, L., Habib, S., Londono, O., Rondon, A. "Implementation of a Basic Flight Simulator Controlled by Computational Vision." In Bogota SIGGRAPH 2012. Bogota, Colombia.

RESEARCH PROJECTS

- **Development of Core Skills and Teaching Practices in the Presence of AI** June 2023 - July 2025
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Role: Co-Principal Investigator
 - Co-PI: [Ethan Dickey](#), Ph.D. student in Computer Science
 - Funding Agency: Innovation Hub Purdue University
 - Description: Research project aimed to leverage generative AI (GenAI) in first- and second-year computer programming courses to enhance student learning, assist instructors in content creation, and reduce the workload of instructional staff.
 - Researchers:
 - * Alex Siladie (Undergraduate, Summer 2025)
 - * Ashok Saravanan (Undergraduate, Summer 2025)
 - * Peter Kurto (Undergraduate, Spring 2025)
 - * Erin Kramer (Undergraduate, Spring 2025)
 - * Juliana Nieto (Undergraduate - GoBoiler Program (UNAL, Colombia), Fall 2024 to January 2025)
 - * Libra Vento (Undergraduate - GoBoiler Program (UTEC, Peru), Fall 2024 to January 2025)
 - * Anvit Sinha (Undergraduate, Spring 2024 to Spring 2025)
 - * Vivian Tiwari (Undergraduate, Summer 2024 to Spring 2025)
 - * Shruti Goyal (Undergraduate, Fall 2023 to Spring 2024)
 - * Zachary Sy (Undergraduate, Fall 2023 to Spring 2024)
 - * Chirayu Garg (Graduate, Summer 2023)
 - Shruti Goyal, Zachary Sy, and Anvit Sinha presented results at Purdues Spring Undergraduate Research Conference 2024.
 - Results published in [Springer Nature Computer Science](#), [IEEE Frontiers in Education 2024 conference](#), [ACM SIGCSE 2025 Technical Symposium](#), and [ACM SIGCSE 2026 Technical Symposium](#).
 - Co-authorship:
 - * Juliana Nieto, Erin Kramer, and Peter Kurto are co-authors of [Owlgorithm: Supporting Self-Regulated Learning in Competitive Programming through LLM-Driven Reflection](#).
 - * Shruti Goyal, Zachary Sy, and Anvit Sinha are co-authors of [BoilerTAI: A Platform for Enhancing Instruction Using Generative AI in Educational Forums](#).
 - * Chirayu Garg is a co-author of [AI-Lab: A Framework for Introducing Generative Artificial Intelligence Tools in Computer Programming Courses](#).
- **Automatic Source Code Plagiarism Detection** January 2023 - May 2025
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Role: Principal Investigator
 - Description: Developing computational and AI-based systems for detecting plagiarism in source code submissions. This project aims to uphold academic integrity in computer programming courses by automating the detection of copied or closely similar code.
 - Researchers:
 - * Jack Hogan (Undergraduate, Spring 2023 to Present)
 - * Micah Robinson (Undergraduate, Spring 2024 to Fall 2024)

- * Vinh Tran (Undergraduate, Spring 2024)
- * Ava Lyall (Undergraduate, Spring 2023 to Spring 2024)
- * Vidit Patel (Undergraduate, Spring 2023 to Spring 2024)
- * Ankush Maheshwari (Undergraduate, Spring 2023)

- **Automatic Analysis of Algorithm Runtime**

Purdue University, Department of Computer Science

January 2023 - May 2024
West Lafayette, IN, USA

- Role: Principal Investigator
- Description: Investigating the use of AI to analyze and evaluate algorithms automatically. This research seeks to provide educators and students with insights into algorithm performance and optimization, enhancing learning and experimentation in data structures and algorithm design.
- Researchers:
 - * Aanya Jha (Undergraduate, Fall 2023 to Spring 2024)
 - * Tzung-Ying (Denis) Hsieh (Undergraduate, Fall 2023 to Spring 2024)
 - * Nilisha Bhandari (Undergraduate, Fall 2023 to Spring 2024)
 - * Benson Tsai (Undergraduate, Fall 2023 to Spring 2024)
 - * Jiarui Xie (Spring 2023 to Spring 2024)
 - * Shubhaang Agarwal (Spring 2023 to Spring 2024)
- They presented their work titled "*Tool for Runtime Analysis and Complexity Evaluator (TRACE)*", at the Purdue Spring Undergraduate Research Conference 2024. They were awarded 3rd place in the [College of Science - Research Talks](#) category.

- **Shape Modeling with Differential Growth and GenAI**

Purdue University, Department of Computer Science

June 2023 - July 2024
West Lafayette, IN, USA

- Role: Principal Investigator
- Description: Developing methods for creating organic, non-linear interlocking structures using generative AI. This project applies AI in architectural and structural design, focusing on sustainable, efficient, and aesthetically appealing building solutions.
- Researchers:
 - * Kathryn Moran (Undergraduate, Fall 2023 to Summer 2024)
 - * Alvin Ismael (Undergraduate, Summer 2023 to Fall 2023)
 - * Ben Lilly (Undergraduate, Spring 2024)
 - * Brayden Bracket (Undergraduate, Fall 2024)
 - * Jinug Lee (Undergraduate, Summer 2023 to Fall 2023)
 - * Rachel Ibey (Undergraduate, Summer 2023 to Fall 2023)
- Results published in [Applied Sciences](#) journal.
- Kathryn Moran is co-author of [Multistep Evolution Method to Generate Topological Interlocking Assemblies](#).

- **Usage of Private GenAI Tools for Course Logistics**

Purdue University, Department of Computer Science

August 2023 - December 2023
West Lafayette, IN, USA

- Role: Principal Investigator
- Description: Exploring AI-driven teaching assistants to provide personalized support and guidance to students in academic settings. This initiative aims to leverage AI to tailor the educational experience to individual student needs and learning styles.
- Researchers:
 - * Anvit Sinha (Undergraduate, Fall 2023)
 - * Arunima Chowdhuri (Undergraduate, Fall 2023)
 - * Siwen Hu (Undergraduate, Fall 2023)
 - * Yashwi Thakkar (Undergraduate, Fall 2023)

- **Generation of Topological Interlocking Configurations from a Geometric Approach**

Purdue University, Department of Computer Science

July 2016 - September 2020
West Lafayette, IN, USA

- Role: Graduate Researcher
- Advisor: Dr. Christoph Hoffmann
- Funding Agency: NSF (Partial Funding)
- Description: Doctoral thesis research. Pioneered parametric generation methods for Topological Interlocking Configurations based on free-form geometric domains.

- Results published in [International Journal of Architectural Computing](#), [IUTAM Symposium on Architected Material Mechanics 2018](#), and [IEEE Games, Multimedia, Animation and Multiple Realities Conference \(GMAX\) 2020](#).
- **Creating a Digital Environment for Enabling Data-Driven Science (DEEDS)** *August 2017 - May 2020*
West Lafayette, IN, USA
Purdue University, Rosen Center for Advanced Computing
 - Role: Graduate Research Assistant and Senior Software Developer
 - PI: M.Sc. Ann Christine Catlin
 - Funding Agency: NSF
 - Description: Designed and proposed components to support the representation and analysis of multi-dimensional hierarchical data from multi-disciplinary research projects.
 - Results published in *Future Generation Computer Systems*, *Computing in Science & Engineering*, and *Gateways 2018*.
- **NIPTE-FDA Excipients Risk Analysis Tool** *May 2017 - August 2017*
West Lafayette, IN, USA
Purdue University, Rosen Center for Advanced Computing
 - Role: Graduate Research Assistant and Senior Software Developer
 - PI: M.Sc. Ann Christine Catlin
 - Funding Agencies: NIPTE and FDA
 - Description: Consolidated a platform for risk assessment evaluation during drug manufacturing based on excipients, dosage forms, functionalities, manufacturing methods, and grades.
 - Results published in *AAPS PharmSciTech*.
- **Building a Modular Cyber-Platform for Preservation of Large Engineering and Science Data** *May 2016 - May 2017*
West Lafayette, IN, USA
Purdue University, Rosen Center for Advanced Computing
 - Role: Graduate Research Assistant and Software Developer
 - PI: M.Sc. Ann Christine Catlin
 - Funding Agency: NSF
 - Description: Architected scalable systems to support and improve sharing files and data visualization of large, classified datasets from science and engineering disciplines.
 - Results published in *Computing in Science & Engineering*.
- **Assemblable Interlocking Polyominoes** *January 2015 - July 2016*
West Lafayette, IN, USA
Purdue University, Department of Computer Science
 - Role: Graduate Researcher
 - Advisor: Dr. Christoph Hoffmann
 - Description: Explored the interlocking properties of assemblable polyominoes and their usage to represent monotonic Boolean expressions.
- **Low-Cost Smart-Home Environments Based on Embedded Systems** *March 2014 - February 2015*
Barranquilla, Colombia
Universidad del Norte, GRECIS Research Group
 - Role: Graduate Researcher
 - Advisors: Dr. Miguel Jimeno and MSc. Augusto Salazar
 - Funding Agency: Colciencias
 - Description: Classified the trends from proposed smart home environments to formulate a scalable, low-cost system for indoor domotic environments.
 - Results published in the *International Journal of Automation and Smart Technology*.
- **NORIA: Node Reservation Intelligent Agent** *July 2010 - November 2012*
Barranquilla, Colombia
Universidad del Norte, Department of Systems Engineering and Computation
 - Role: Graduate Researcher
 - Advisor: Dr. Jose Marquez
 - Description: Formulated a node reservation protocol for ad-hoc wireless networks to prioritize routing and establish exclusive communication paths between nodes.
- **Detection of Source Code Similitude in Academic Environments** *January 2008 - December 2008*
Barranquilla, Colombia
Universidad del Norte, Department of Systems Engineering and Computation
 - Role: Undergraduate Researcher
 - Advisor: Dr. Lucy Garcia
 - Description: Explored the problem of code plagiarism in freshman programming courses and proposed a system to detect similar codes and rank the similarities.
 - Results published in *Computer Applications in Engineering Education*.

GRANTS

- **Development of Core Skills and Teaching Practices in the Presence of AI (Extension)** *October 2024 - August 2025*
Purdue University, Office of the Provost
West Lafayette, IN, USA
 - Funding Agency: Innovation Hub Purdue University
 - Number: IH-AI-23002
 - Amount: \$99,373.73
- **Development of Core Skills and Teaching Practices in the Presence of AI** *July 2023 - August 2024*
Purdue University, Office of the Provost
West Lafayette, IN, USA
 - Funding Agency: Innovation Hub Purdue University
 - Number: IH-AI-23002
 - Amount: \$87,974.28

TEACHING

- **Instructor of Record: CS290-Vibe - Vibe Coding** *Spring 2026*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluations: Course: NA; Teaching: NA
 - Enrollment: 27 Students
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Spring 2026*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluations: Course: —/5.0; Teaching: —/5.0
 - Enrollment: 215 students; Staffed: 8 GTAs, 16 UTAs
- **Instructor of Record: CS253 - Data Structures and Algorithms for DS/AI** *Spring 2026*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluation: Course: —/5.0; Teaching: —/5.0
 - Enrollment: 133 students; Staffed: 4 GTAs, 10 UTAs
- **Instructor of Record: CS290-Vibe / CSCI490-Vibe - Vibe Coding** *Fall 2025*
Purdue University, Department of Computer Science
Indianapolis, IN, USA
 - Evaluations: Course: NA; Teaching: NA
 - Enrollment: 25 Students
- **Instructor of Record: CS176 - Data Engineering in Python** *Fall 2025*
Purdue University, Department of Computer Science
Indianapolis, IN, USA
 - Evaluations: Course: 4.6/5.0; Teaching: 4.5/5.0
 - Enrollment: 25 Students; Staffed: 1 GTA
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Fall 2025*
Purdue University, Department of Computer Science
Indianapolis, IN, USA
 - Evaluations: Course: 4.575/5.0; Teaching: 4.5/5.0
 - Enrollment: 55 Students; Staffed: 2 GTAs, 1 UTA
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Summer 2025*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluations: Course: 4.3/5.0; Teaching: 4.525/5.0
 - Enrollment: 53 students; Staffed: 2 GTAs, 3 UTAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Spring 2025*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluations: Course: 4.0/5.0; Teaching: 4.025/5.0
 - Enrollment: 289 students; Staffed: 11 GTAs, 21 UTAs
- **Instructor of Record: CS253 - Data Structures and Algorithms for DS/AI** *Spring 2025*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluation: Course: 4.5/5.0; Teaching: 4.375/5.0
 - Enrollment: 68 students; Staffed: 2 GTAs, 10 UTAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Fall 2024*
Purdue University, Department of Computer Science
West Lafayette, IN, USA
 - Evaluation: Course: 4.4/5.0; Teaching: 4.287/5.0

- Enrollment: 621 students; Staff: 17 GTAs, 41 UTAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Summer 2024*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.5/5.0; Teaching: 4.5/5.0
 - Enrollment: 48 students; Staffed: 2 GTAs, 5 UTAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Spring 2024*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 3.8/5.0; Teaching: 4.075/5.0
 - Enrollment: 353 students; Staffed: 26 TAs
- **Instructor of Record: CS253 - Data Structures and Algorithms for DS/AI** *Spring 2024*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.3/5.0; Teaching: 4.3/5.0
 - Enrollment: 67 students; Staffed: 13 TAs
- **Instructor of Record: CS177 - Programming with Multimedia Objects** *Fall 2023*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.1/5.0; Teaching: 4.462/5.0
 - Enrollment: 331 students; Staffed: 21 TAs
- **Instructor of Record: CS177 - Programming with Multimedia Objects** *Summer 2023*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 3.2/5.0; Teaching: 3.375/5.0
 - Enrollment: 37 students; Staffed: 5 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Summer 2023*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.0/5.0; Teaching: 3.7/5.0
 - Enrollment: 40 students; Staffed: 6 TAs
- **Instructor of Record: CS177 - Programming with Multimedia Objects** *Spring 2023*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.1/5.0; Teaching: 4.225/5.0
 - Enrollment: 347 students; Staffed: 25 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Fall 2022*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.6/5.0; Teaching: 4.55/5.0
 - Enrollment: 415 students; Staffed: 30 TAs
- **Instructor of Record: CS182 - Foundations of Computer Science** *Summer 2022*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.7/5.0; Teaching: 4.5/5.0
 - Enrollment: 55 students; Staffed: 7 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Summer 2022*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.6/5.0; Teaching: 4.45/5.0
 - Enrollment: 53 students; Staffed: 8 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Spring 2022*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 3.8/5.0; Teaching: 3.9/5.0
 - Enrollment: 339 students; Staffed: 26 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** *Fall 2021*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.65/5.0; Teaching: 4.625/5.0
 - Enrollment: 381 students; Staffed: 30 TAs
- **Instructor of Record: CS182 - Foundations of Computer Science** *Summer 2021*
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.3/5.0; Teaching: 4.4/5.0

- Enrollment: 96 students; Staffed: 8 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** Summer 2021
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.65/5.0; Teaching: 4.8/5.0
 - Enrollment: 58 students; Staffed: 6 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** Spring 2021
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.4/5.0; Teaching: 4.266/5.0
 - Enrollment: 248 students; Staffed: 25 TAs
- **Instructor of Record: CS251 - Data Structures and Algorithms** Fall 2020
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Evaluation: Course: 4.466/5.0; Teaching: 4.4/5.0
 - Enrollment: 342 students; Staffed: 22 TAs
- **Graduate Teaching Assistant: CS251 - Data Structures and Algorithms** Spring 2016
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Instructor: Dr. Daniel Aliaga
- **Graduate Teaching Assistant: CS334 - Fundamentals of Computer Graphics** Fall 2015
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Instructor: Dr. Daniel Aliaga
- **Graduate Teaching Assistant: CS251 - Data Structures and Algorithms** Summer 2015
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Instructor: Dr. Gustavo Rodriguez-Rivera
- **Graduate Teaching Assistant: CS251 - Data Structures and Algorithms** Spring 2015
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Instructor: Dr. Christoph Hoffmann
- **Graduate Teaching Assistant: CS251 - Data Structures and Algorithms** Fall 2014
Purdue University, Department of Computer Science West Lafayette, IN, USA
 - Instructor: Dr. Susanne Hambrusch
- **Instructor of Record: ELP8510 Mobile App Programming** Fall 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 19 students.
- **Instructor of Record: IST2088 - Algorithms and Programming I** Fall 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 35 students.
 - Staff: 1 UTA
- **Instructor of Record: IST2121 - Multimedia for Communications** Fall 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 22 students.
- **Instructor of Record: ELP8510 Mobile App Programming** Spring 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 20 students.
- **Instructor of Record: IST2121 Fundamentals of Computer Graphics** Spring 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 20 students.
- **Instructor of Record: IST2121 Multimedia for Communications** Spring 2013
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 20 students.
- **Instructor of Record: ELP8510 Mobile App Programming** Fall 2012
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 22 students.
- **Instructor of Record: IST2121 Multimedia for Communications** Fall 2012
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 - Enrollment: 21 students.

- **Instructor of Record: IST2121 Fundamentals of Computer Graphics** *Fall 2012*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 ◦ Enrollment: 12 students.
- **Instructor of Record: IST2121 Multimedia for Communications** *Spring 2012*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 ◦ Enrollment: 20 students.
- **Instructor of Record: IST2088 Algorithms and Programming I** *Spring 2011*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 ◦ Enrollment: 30 students.
- **Instructor of Record: IST2088 Algorithms and Programming I** *Fall 2010*
Universidad del Norte, Department of Systems Engineering and Computation Barranquilla, Colombia
 ◦ Enrollment: 30 students.

PROFESSIONAL MEMBERSHIP AND SERVICE

- **Journal Paper Reviewer** *October 2025*
Technological Forecasting and Social Change - Elsevier
- **Journal Paper Reviewer** *August 2025*
Social Sciences & Humanities Open - Elsevier
- **Journal Paper Reviewer** *July 2025*
Computers & Education Open - Elsevier
- **Journal Paper Reviewer** *July 2025*
Computers & Education - Elsevier
- **Journal Paper Reviewer** *June 2025*
Thinking Skills and Creativity - Elsevier
- **Conference Papers Reviewer** *Spring 2024*
2025 IEEE Global Engineering Education Conference (EDUCON)
- **Conference Demonstrations Reviewer** *Fall 2024*
2025 ACM SIGCSE TS
- **Conference Papers Reviewer** *Summer 2024*
2025 ACM SIGCSE TS
- **Conference Papers Reviewer** *Summer 2024*
2024 IEEE Frontiers in Education
- **Journal Paper Reviewer** *Summer 2024*
Springer Nature Computer Science - Springer Nature
- **Conference Poster Judge** *Spring 2023*
Undergraduate Research Fair, Purdue University
- **Hackathon Judge** *Spring 2023*
BoilerMake X Hackathon, Purdue University
- **Journal Paper Reviewer** *Fall 2022*
Concurrency and Computation: Practice and Experience - Wiley
- **Conference Poster Judge** *Spring 2021*
2021 ACM Tapia
- **Conference Papers Reviewer** *Fall 2020*
2020 IEEE Games, Animation, Multimedia, and Multiple Realities - IEEE GMAX
- **Presidential Election Hackathon – Co-host** *Spring 2014*
Universidad del Norte, Department of Systems Engineering and Computation
- **Computer Graphics and Videogames Workshop – Host** *Summer 2013*
Universidad del Norte, Department of Systems Engineering and Computation
- **Computer Graphics Workshop – Host** *Summer 2012*
Universidad del Norte, Department of Systems Engineering and Computation
- **CCEIS Student Group – Member** *January 2006 - December 2009*
Universidad del Norte, Department of Systems Engineering and Computation

DEPARTMENTAL AND UNIVERSITY SERVICE (PURDUE UNIVERSITY)

- **CS 17300: AI Competency - Course Development**
Purdue University, College of Science Spring 2026 - Summer 2026
West Lafayette, IN, USA
- **BYTES - AI Literacy Course Prototype**
Purdue University, College of Science Fall 2025 - Spring 2026
West Lafayette, IN, USA
- **AI TIGER Team - AI Foundational Learning Outcomes Proposal**
Purdue University, Office of the vice provost for teaching and learning Fall 2025
West Lafayette, IN, USA
- **Faculty Retreat Breakout Session - Undergraduate Curriculum in the AI Era**
Purdue University, Department of Computer Science August 22nd, 2025
West Lafayette, IN, USA
- **New GTA Training Session - Types of Students**
Purdue University, Department of Computer Science August 21st, 2025
West Lafayette, IN, USA
- **Meeting with Prospective Ph.D. Students - Teaching Assistants Session**
Purdue University, Department of Computer Science March 11th, 2025
West Lafayette, IN, USA
- **GoBoiler 2024 Program Welcome Faculty**
Purdue University, Department of Computer Science Fall 2024
West Lafayette, IN, USA
- **Undergraduate Study (CS) Committee**
Purdue University, Department of Computer Science Spring 2024 - Summer 2025
West Lafayette, IN, USA
- **Lecturer Reviewer: Xiaojin Liu**
Purdue University, Department of Computer Science Spring 2024
West Lafayette, IN, USA
- **Lecturer Reviewer: William Crum**
Purdue University, Department of Computer Science Spring 2024
West Lafayette, IN, USA
- **CS407 Sprint Reviewer**
Purdue University, Department of Computer Science Fall 2023 - Present
West Lafayette, IN, USA
- **Teaching Assistant Orientation - Guest Speaker**
Purdue University, Department of Computer Science Fall 2023 - Present
West Lafayette, IN, USA
- **Lecturer Mentoring: Jessica Conner-Strunk**
Purdue University, Department of Computer Science Summer 2023 - Fall 2023
West Lafayette, IN, USA
- **Undergraduate AI and DS Committee**
Purdue University, Department of Computer Science Fall 2022 - Fall 2023
West Lafayette, IN, USA

HONORS, AWARDS, AND CERTIFICATIONS

- **IMPACT Faculty Learning Community**
Purdue University, Center For Instructional Excellence Spring 2025
West Lafayette, IN, USA
- **Teaching for Tomorrow Fellowship Award - Junior Fellow**
Purdue University, Center For Instructional Excellence Fall 2024
West Lafayette, IN, USA
- **Teaching for Tomorrow Fellowship - Junior Fellow**
Purdue University, Center For Instructional Excellence Fall 2023 - Spring 2024
West Lafayette, IN, USA
- **Foundations of College Teaching Certificate Program**
Purdue University, Center For Instructional Excellence Spring 2023
West Lafayette, IN, USA
- **Worldview Workshop**
Purdue University, Office of the Dean of International Programs Fall 2022
West Lafayette, IN, USA
- **Raymond Boyce Graduate Teacher Award**
Purdue University, Department of Computer Science Fall 2015
West Lafayette, IN, USA
- **Diploma in University Pedagogy**
Universidad del Norte, Center for Instructional Excellence (CEDU) 2013
Barranquilla, Colombia
- **Graduate Scientific Merit, Finalist**
Universidad del Norte, School of Engineering 2012
Barranquilla, Colombia

STUDENT CLUB ADVISING

- **Claude Builder Club @ Purdue**
Purdue University, Student Activities and Organizations *Fall 2025 - Present*
West Lafayette, IN, USA
- **Korean Student Association Purdue Indianapolis**
Purdue University, Student Activities and Organizations *Fall 2025 - Present*
Indianapolis, IN, USA
- **Google Development Club**
Purdue University, Student Activities and Organizations *Fall 2021 - Present*
West Lafayette, IN, USA
- **Hack the Future at Purdue Club**
Purdue University, Student Activities and Organizations *Fall 2022 - Present*
West Lafayette, IN, USA
- **Purdue Magic Club**
Purdue University, Student Activities and Organizations *Fall 2022 - Spring 2023*
West Lafayette, IN, USA
- **Computer Graphics and Mobile App Development Student Groups**
Universidad del Norte *Spring 2012 - Spring 2014*
Barranquilla, Colombia

MEDIA

- **Miradas RCN Podcast**
Universidad del Rosario *August 4th, 2025*
Bogotá, Colombia
 - Title: [Will AI replace or empower workers?](#)
- **¿Qué está Paz-ando? - LAUD 90.4 FM ESTÉREO**
Universidad Distrital Francisco José de Caldas, Instituto de Paz (IPAZUD) *July 2nd, 2025*
Bogotá, Colombia
 - Title: [Digital territories, the new frontier of working with AI](#)
- **Nova Et Vetera Newspaper**
Universidad del Rosario *June 20th, 2025*
Bogotá, Colombia
 - Title: [Will AI replace or enhance workers? Two experts reveal the key to staying ahead of the curve](#)
- **Innovation Hub News**
Purdue University, Student Activities and Organizations *October 14th, 2024*
West Lafayette, IN, USA
 - Title: [Is artificial intelligence enhancing student learning or hindering critical thinking? Purdue professors weigh in on the pros and cons of classroom AI](#)
- **Superheroes of Science**
Purdue University, College of Science *January 2024*
West Lafayette, IN, USA
 - Title: [A Career in Automated Algorithm Analysis](#)