Jenna Kline

jenna-kline | kline.377@osu.edu |

Education

2021 - present **PhD Computer Science Engineering** at **The Ohio State University** (GPA: 3.7/4.0)
Expected Graduation: May 2026
Advisor: Dr. Christopher Stewart
Major: Software Systems
Minors: Artificial Intelligence & Databases

2014 - 2018 **B.S. Industrial Engineering *Cum Laude*** at **The Ohio State University** (GPA: 3.6/4.0)
Honors in Integrated Business and Engineering (IBE)
Major: Industrial & Systems Engineering, Data Analytics & Optimization Specialization
Minor: Business
Activities: Big Data Analytics Association, Buckeye Undergraduate Consulting Club, SWE

Research Interests

Resilient edge architecture for autonomous, unmanned aerial vehicles: Autonomous, unmanned aerial vehicles (AUAVs) use software to decide where to fly, when to collect data, and when to end a mission without humans in the loop. AUAVs employ edge computing, a distributed computing paradigm wherein computational resources, i.e. servers, near AUAVs can offload image processing workloads in place of cloud computing resources. My research focuses on building resilient edge architecture designed to enable long-term, multi-mission AUAV swarms through streaming workload semantics and resilient, elastic, and disaggregated placements. My research topics include artificial intelligence, far-edge system management, and autonomous swarm behaviors.

Publications:

Kline, Jenna (2022). "PhD Forum: Edge Computing for Software-Defined Cartography". In: *The Seventh ACM/IEEE Symposium on Edge Computing (SEC)*. Seattle, WA: ACM.

– (2023). "Interdisciplinary Applications for Autonomous Unmanned Aerial Vehicles". In: *Ohio Celebration of Women in Computing 2023*. Huron, OH: OCWiC. URL: https://ocwic23.ocwic.org/program/.

Kline, Jenna et al. (2023). "Software-Defined Cartography with AUAV". In: *In submission*.

Relevant Experience

The Ohio State University, Graduate Teaching Assistant Aug 2021 - present

CSE 2111: Modeling and Problem Solving with Spreadsheets and Databases
– Lecture topics include spreadsheet and database modeling, programming concepts, and techniques to solve business related problems

CSE 3244: Data Management in the Cloud
– Lecture topics include systematic organization of data on cloud computing architectures, basic indexing techniques, including B-tree and hash-based indexing, fundamentals of query optimization, including access path selection and cardinality estimation, full and partial replication and data partitioning and distributed task scheduling.

Bath & Body Works, Data Service Product Owner Jan 2019 - Aug 2021

– Led team of developers, UX designers, architects, and functional experts to design, build, and implement interactive dashboard to enable store, regional, and district managers to track and manage their labor across all stores in North America
– Developed cross-functional relationships with stores, finance, human resources, and merchandising teams to build reports and dashboards in MicroStrategy to provide actionable information to leadership and optimize internal processes
– Coordinated with database administrators to reduce report runtime by optimizing database schema
– Served on the Summer Intern Experience Taskforce to organize events for interns to enhance their experience and provide opportunities for professional development

L Brands Mast Global, Supply Chain Applications Intern May 2018 - Aug 2018

- Completed data analysis project to assess Victoria's Secret size assortment and allocation strategy, and identify opportunities to improve inventory productivity
- Gathered sales and inventory data from 35 Ohio stores, during Spring 2018, for merchandise from Oracle and MicroStrategy and compiled the data into a SQL database
- Used Python to analyze the data by calculating and comparing the sell through for each size by store and tier
- Identified $24 million opportunity to improve sell through by allocating merchandise sizes based on individual store performance, rather than tier level, without any additional inventory investment

The Ohio State Office of Research, ADVANCE Student Employee Aug 2017 - Apr 2018

- Supported the Office of Research ADVANCE program, aimed at increasing the representation, advancement, and recruitment of women faculty in STEM careers
- Aided in organizing workshops for the REACH for Commercialization initiative to inspire female entrepreneurship and expand the impact of research patents

Georgia Pacific, Research and Development Engineer Intern Jun 2017 - Aug 2017

- Completed data analytics project by identifying locations to conduct the study, monitoring raw data in SQL, writing code in R to analyze the data, and visualizing data insights with Tableau, enabling stakeholders to make informed decisions
- Created interactive visualization using Mathematica to model skin health in 3D, enabling users to quickly assess patients

General Electric, Engineering Product Management Intern Jan 2016 - May 2016

- Increased the availability of top-selling products by 80% by holding internal supply chain and manufacturing teams accountable to their production commitments, which drove a 4X increase in sales, using Salesforce and SAP
- Launched a new surface mount downlight targeting 800K annual sales and 25% commercial margin by negotiating with the supplier, developing marketing materials, and promoting the product to key sales agents to expand the downlight portfolio

Projects

Honors Integrated Business and Engineering Challenge at CERN Link to Demo

Collaborated with a team of engineering and business students to create a prototype and present a business plan to solve the problem of providing affordable, safe water to the global community; Spent two weeks working at CERN, the European Council for Nuclear Research, in Switzerland at the IdeaSquare prototyping facility collaborating with CERN's Knowledge Transfer team and built a working water purification prototype.

Professional Organizations & Volunteering

ACM-W, Volunteer Awarded Grace Hopper Celebration scholarship for graduate students
GWCS, Vice President Vice President of OSU Graduate Women in Computer Science Association

Skills

Programming Python, JavaScript, PyTorch, Docker, Machine Learning, High Performance Computing
Product Management JIRA, Agile Project Management, UX/UI, Salesforce, Market Research
Data Analytics PowerBI, MicroStrategy, Tableau, Database Management, SQL