

John Parks

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EDUCATION

University of Cincinnati, College of Engineering and Applied Science, University Honors Program

Cincinnati, OH

CEAS Bachelor of Science, Major: Computer Science, CEAS Dean's List, GPA: 3.778

Expected Graduation: April 2026

LANGUAGES & TECHNOLOGIES

Languages: Python, JavaScript/TypeScript, SQL, VB.NET, C#, C++, HTML/CSS

Technologies/Frameworks: Git, NodeJS, Angular, GraphQL, REST API, BlazePose, AWS, GitHub Actions, Agile Development

WORK EXPERIENCE

UCdasec Lab – University of Cincinnati, Cincinnati, OH

May 2025 – Present

Hardware Security Researcher

- Investigating detection methods for hardware vulnerabilities from the Common Weakness Enumeration (CWE) list
- Exploring static analysis and pattern recognition techniques to identify security vulnerabilities in hardware designs
- Reviewing academic literature and communicating findings through written reports and oral presentations

VISENS Research Group - University of the Basque Country, Bilbao, Spain

Jan 2025 – May 2025

Artificial Intelligence Researcher

- Researched AI-based spasticity detection using BlazePose and computer vision frameworks
- Designed a Python-based anomaly detection algorithm to identify and correct pose estimation errors
- Investigated human pose estimation key point anomalies to enhance joint tracking accuracy
- Delivered technical presentations to summarize research outcomes to an international team

Pole/Zero, West Chester Township, OH

May 2024 – August 2024

Software Engineer Co-op

- Developed and executed comprehensive test plans to ensure software reliability and compliance with ISO standards
- Designed and implemented .NET applications to migrate thousands of data files, ensuring scalability and data integrity
- Upgraded shared codebase across multiple software packages, improving system performance, scalability, and security
- Modified existing applications to support multiple versions of spectrum analyzers, saving the company \$180,000

London Computer Systems, Cincinnati, OH

August 2023 – December 2023, January 2023 – April 2023

Full Stack Developer Co-op

- Delivered full-stack web development solutions, enhancing application functionality and user experience
- Wrote and optimized SQL scripts to update databases while maintaining accuracy, integrity, and performance
- Collaborated with cross-functional teams in Agile environments, meeting deadlines and requirements
- Presented new features to product managers and stakeholders, ensuring alignment with business goals

BARK Handmade, Cincinnati, OH

May 2020 – March 2023

Co-founder

- Co-founded a woodworking startup, overseeing end-to-end product design, manufacturing, and delivery
- Managed financial operations, including budgeting, expense tracking, and payment planning
- Directed supply chain and material sourcing strategy, ensuring timely delivery of materials and end products

PROJECTS

Sudoku Solver (Python, PyQt5)

- Created a backtracking algorithm that solves Sudoku puzzles by detecting constraint violations
- Built an interactive GUI enabling users to create and solve custom Sudoku puzzles
- Extended the solving algorithm to support advanced constraints such as Kropki dots, killer cages, thermometers, etc.

AI Healthcare Bot (AWS, Python, Angular, TypeScript, HTML, CSS)

- Fine-tuned a MedAlpaca LLM for disease classification using a symptom-disease dataset and deployed it on AWS
- Achieved a 6.6x improvement in classification accuracy, improving from 7.8% to 51.4% on 3,000 evaluation samples
- Designed and implemented a web-based UI allowing users to interact with the deployed model