Joseph Krusling

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Education

University of Cincinnati *Expected May 2020*
Bachelor of Science in Computer Science 3.5 GPA

Technical Skills

Languages Java, JavaScript, Python, C, C#, GLSL
Tools Linux, Git, Docker, Apache Spark, Airflow, Maven, TeamCity, IntelliJ
Patterns REST, Continuous Integration/Deployment, Microservices Architecture, Parallel Systems

Work Experience

84.51˚ *Software Engineering Co-op* *May 2019 - August 2019*

- Created a system for managing the lifecycle, validation, and deployment of predictive machine learning models using Spring and Python microservices, Apache Spark, and a frontend Angular application.
- Improved the relevance of coupons, ads, and mailers delivered to millions of Kroger customers by reducing the deployment time for new predictive models from two weeks to under one hour.

EST Analytical *Software Engineering Co-op* *August 2018 - December 2018*

- Increased the throughput of an auto-sampling robot by 500% by developing planning algorithm and simulator that allows multiple samples to be prepared and incubated in parallel.
- Developed robust asynchronous communications library for controlling a robot using Java and C.
- Built Electron application for managing a fleet of robotic instruments using JavaScript, Vue, and Java.

Siemens PLM Software – CTO Group *Software Engineering Co-op* *January 2018 – May 2018*

- Created extensible agent-based chatbot framework using AWS Lex, DialogFlow and IBM Watson.
- Developed Java software to analyze co-location data and presented actionable reports to management.
- Deployed internal machine learning models to Amazon Web Services using Docker and SageMaker.

Siemens PLM Software – PDS Group *Software Engineering Co-op* *May 2017 – August 2017*

- Automated the testing of a mission-critical web application using Java, Selenium, and JavaScript.
- Designed client-server system for orchestrating test runs across numerous computers using Node.js.
- Discovered and corrected several major security vulnerabilities in a customer-facing web application.

Projects

Automated Drone Navigation with Fixed External Sensors *2019 (In Development)*

- Creating system for controlling blind drones using data from an array of cameras facing the drones.
- Designing computer vision system for synthesizing multiple camera feeds and modeling the positions of multiple drones, Jenga blocks, and additional obstacles in 3D space.
- Prototyping custom low-weight hardware for pushing, pulling, gripping, and carrying.

Competitive Programming Game *2017*

- Developed multiplayer web-game where players control their character indirectly by writing JavaScript.
- Designed sandboxing system for running untrusted code to control agents in a contained environment.
- Built scalable back-end game server using Node.js and front end game interface using HTML5 Canvas.

MMORPG Gameplay Automation Research *2015 – 2016*

- Created custom Java game client to extract data from the game using Java bytecode manipulation.
- Designed algorithms for automating tasks within the game and emulating human behavior.