

Christopher Dalke

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SKILLS

- Full-stack software engineer with a deep expertise in building tools for data collection and visualization.
- Strong teamwork and leadership skills developed as president of the University of Rochester solar boat racing team.
- Industry experience with Agile process and software architecture at Convene and Amazon.
- Background in embedded systems and hardware prototyping for sensor & IoT projects.
- **Programming** Java, C/C++, Javascript, Python, MATLAB
- **Infrastructure / DevOps** AWS, Git, Make/CMake, Gradle, JIRA, Docker, SQL, PostgreSQL, Linux/Unix
- **Frameworks** React, Node.js, Java Spring Boot, HTML/CSS, jQuery, Django, OpenGL, SDL, Arduino Ecosystem
- **Interests** Hardware & Software R&D, Data Collection & Visualization, Backend Infrastructure, Embedded Software

EXPERIENCE

Convene, Inc · Full-Stack Software Engineer Boston, MA · **September 2019 - Ongoing**

- Work across the stack to solve multi-discipline problems on Convene's physical and digital products.
- Built infrastructure to automate badge printing and physical building access across Convene's locations.
- Designed and implemented a large-scale data processing pipeline for Convene's virtual events product. Software ingests millions of data points an hour, providing information about performance and usage of our video streaming platform.
- Regularly build and deploy projects using React, PostgreSQL, Java, C/C++.

Amazon, Inc · Software Development Intern Seattle, WA · **May 2018 - August 2018**

- Worked on the Maps Services team, which owns real time navigation infrastructure at Amazon.
- Built a data conversion pipeline for geospatial data, used to support Amazon's delivery logistics network.
- Used AWS CloudFormation, Lambda, and Data Pipeline to build infrastructure for large-scale data analysis jobs.
- Built knowledge of software testing methodologies, CI/CD systems, and agile software development.

Beco, Inc · Software Development Intern Boston, MA · **July 2016 - April 2018**

- Worked on a small team building a hardware product for indoor location tracking using Bluetooth.
- Ported Beco's core C++ code base to run on cross-platform applications on iOS, Android, and the web.
- Worked with SQL database queries and analysis of large-volume spatial sensor data in a Java-based backend.
- Ongoing employment after internship maintaining Docker-based infrastructure and building Java web applications.

PROJECTS

TelemetryJet · Software Project · Java, Javascript, React, C++ Boston, MA · **August 2019 - Ongoing**

- Building tools to collect, analyze, and share sensor data from hardware systems in R&D environments.
- Built Java backend to ingest real-time streaming sensor data from a C++ command-line interface.
- Implemented efficient data visualization and streaming algorithms for large datasets in React and Javascript.
- Applying concepts from web software & human-computer interaction to build powerful new tools to work with sensor data efficiently.

Rochester Solar Boat · Hardware & Software Project Rochester, NY · **January 2016 - July 2019**

- President and team lead for all projects on the 16ft manned electric boat designed by the Rochester boat racing team.
- Redesigned the 20kw drivetrain and power electronics to increase top speed by 50% while using 60% less energy.
- Designed a modular telemetry network, used to transmit data to shore in real time over a radio connection.
- Established a data-driven approach which leveraged our telemetry to make decisions using quantitative evidence, resulting in historic success for our team.
- Worked in frontend & embedded software, CAD & mechanical fabrication, PCB design, business management, and PR.

Rubik Rooms · Hackathon Project · Java, C++, OpenGL Rochester, NY · **January 2017**

- **Won 1st place** out of 31 teams at 2017 DandyHacks hackathon hosted at the University of Rochester.
- Built a puzzle video game in which players manipulate the level they are in by rotating a physical Rubik's Cube.
- Developed knowledge of linear algebra and matrix math, graphics and shader programming, physics programming.

Parity: The Ninth-Bit · Hackathon Project · Python, C, Processing Rochester, NY · **January 2016**

- **Won 2nd place** out of 25 teams at 2016 DandyHacks hackathon hosted at the University of Rochester.
- Created a collection of giant IoT instruments that could be played by being stomped on.
- Interfaced piezo elements with digital synthesizers / visualizations via an Arduino hardware prototype.
- Developed knowledge of embedded-system design, procedural audio generation, graphics programming.

EDUCATION

University of Rochester · B.S. in Computer Science Rochester, NY · **September 2015 - May 2019**

- **GPA** 3.7/4.0, High Distinction
- **Dean's List** 7/8 semesters
- **Extracurriculars** Member of Varsity Track & Field and Varsity Cross Country teams (20 hrs/week).
- **Relevant Coursework:** Computation & Formal Systems, Algorithms, Data Structures, Robotic Construction, Computer Organization, Web Programming, Artificial Intelligence, Machine Vision.