Sydney Lawrence

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EDUCATION

Cornell University, *College of Engineering, Ithaca, NY* **Expected May 2022**
Bachelor of Science in Computer Science, Robotics Minor
GPA: 3.7; **Dean's List**
Relevant Courses: Algorithms, Autonomous Mobile Robots, Computer Vision, Operating Systems, Databases, Honors Object-Oriented Programming and Data Structures, Mechatronics

WORK EXPERIENCE

Amazon Robotics, North Reading, MA, *Software Development Engineer Intern (Remote)* **Jun. 2021-Aug.2021**

- Designed, implemented, and tested data-driven robotic schedule visualization tool proof of concept with 9 custom React components to help hasten service improvements and shorten high-severity issue debugging time
- Utilized Python, AWS API Gateway, and AWS S3 to process AWS Kinesis messages for application backend
- Utilized Sketch to create UI mock-ups for three iterations of design reviews, including one within first week of hire

The MITRE Corporation, Bedford, MA, *DevOps Engineer Co-op (Remote)* **Sep. 2020-Jan. 2021**

- Learned and utilized common DevOps tools (e.g. Ansible, Kubernetes, Helm) to support Software Factory infrastructure-as-a-service project
- Created Grafana monitoring dashboard and Prometheus monitors for OpenEBS storage system health monitoring
- Completed voluntary courses in Penetration Testing and Introductory Systems Engineering
- Assisted in ensuring compliance with NIST 800-171 Controlled Unclassifed Information standards

WAY Holdings Inc., Ithaca, NY, *Lead Full-Stack Developer (Internship*) **Jun. 2020-Dec. 2020**

- Managed AWS EC2 containerized deployments and MongoDB database for testing and production purposes
- Automated restaurant menu generation, eliminating 70% of necessary typing within first week of hire
- Reviewed over 40 pull requests across multiple subteams to ensure code robustness and quality
- Improved merchant business intelligence by adding and testing REST API endpoints for data-driven merchant dashboard

TECHNICAL PROJECTS

MiniBot: Ongoing open-source project partnering Cornell Cup Robotics Team with DaVinci Labs / UCode Inc. to create educational robotics kit with innovative computer vision system. Learn more at cornellcuprobotics.com.

- Fostered enhanced commands and simulation data collection by creating TCP-like, packet-based message protocol over SPI to interface between Arduino and Raspberry Pi, featuring speeds up to 3.7 KB/s reads and 17.2 KB/s writes
- Ported C++ computer vision system to Python, improving user experience, code maintainability, and AprilTag detection accuracy while maintaining 27 frames per second (FPS) image processing speed on 30 FPS camera
- Implemented both Python and Google Blockly remote robot code execution feature to expand product target audience
- Created videos, written instructions, and technical documents to ensure computer vision system use and maintenance

Waypoint Navigator: Autonomous mobile robots class final competition project involving autonomous simulated localization and path planning with a vertex-based roadmap and particle filter to visit waypoints within a time limit

- Won 3rd place in class competition on a team with two other members

CritterWorld: Java simulation of programmable insects in a graphically rendered world utilizing over 10,000 lines of code.

- Designed and implemented JavaFX GUI, classes, interfaces, abstract syntax trees, and Spark-based HTTP server

CAMPUS INVOLVEMENT

Cornell Cup Robotics Project Team, *Member (2019-2020), Minibot CS Lead (2020-2021)* **Sep. 2019-Aug. 2021**
Association of Computer Science Undergraduates, *Member* **Aug. 2018-Present**
Big Red Bands, *Trombone / Baritone, Flute, Trumpet, Special Events Coordinator (2021)* **Aug. 2018-Present**
Empathy, Assistance, and Referral Services, *Counseling Trainee* **Sep. 2019-May 2020**
North Star Dining Hall, *Bakery Training Captain* **Aug. 2018-May 2019**

SPECIALIZED SKILLS & INTERESTS

Programming Languages: Python 3, TypeScript, Java 8, C, PHP, JavaScript, SQL
Programming Tools: Git, React.js, Redux, Linux, OpenCV, Flask, AWS, MongoDB, Docker, Jest, Robot Operating System
Misc. Engineering: Arduino (circuits and Atmel Studio programming), Autodesk Inventor, Autodesk Fusion 360
Languages: Spanish (fluent, NJ Seal of Biliteracy award recipient)
Musical Instruments: Trombone, Baritone / Euphonium, Flute, Trumpet, Alto Saxophone, Guitar