Emily Shao

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CS/CE major with technical internship experience looking for programming-based Software Engineering internships

Education

Duke University Aug 2021 – May 2025
B.S. in Computer Science | B.S. in Electrical and Computer Engineering | Dean's List GPA: **3.94**/4.00

Illinois Mathematics & Science Academy (IMSA) June 2021
High Honor Roll | National Merit Finalist | Illinois State Scholar | Class Vice President GPA: **3.94**/4.00

***Relevant Coursework**: Data Structures and Algorithms (Java), Object Oriented Programming (Java), Advanced Software Design and Implementation (Java), Computer Architecture (C), Computational Methods in Engineering (Python), Research (C++, Python)*

Work Experience

ABB Ltd | *Software Engineering Intern* May 2023 – Aug 2023
- Current Summer 2023 internship on the Research & Development Software Team for large-scale motion products
- Wrote firmware in Structured Text to directly program fan curve models onto ABB ASC880 industrial drives
- Designed resistance adaptation software in C++ to add capability to drive systems

RLI Corp. | *Data Engineering Intern* May 2022 – Aug 2022
- Built data pipelines into Snowflake cloud database system which enabled multi-million row consumption
- Analyzed data in DataRobot machine learning algorithms and determined features affecting premium rates
- Completed analysis and other cloud transfer projects using SQL/Python and the lean agile methodology

Duke University, Rubenstein Library | *Technical Services Assistant* Nov 2021 – Apr 2022
- Digitized 300+ audio collections (CDs, cassettes, record disks, etc.) and published to Duke's online catalog
- Designed automatic file conversion process for online database updates using Python scripts and Audacity

Caterpillar Inc. | *Data Analyst Intern Trainee* Jun 2019 – Aug 2019
- Maintained real-time databases in Enterprise Resources (ERP) for the Warehouse Management Support Team
- Identified errors in data records in SAP BusinessObjects and SAP Supply Chain Management applications
- Registered data change tickets in ServiceNow and reorganized files in SharePoint to streamline documentation

Projects / Research

Research with Deep Learning | *Research Intern* Jun 2022 – Present
- Programmed PyTorch deep learning model to test VQ-VAE framework audio enhancement methods
- Integrated STFT/STDCT data processing code on LibriSpeech audio dataset for model training

Combat Robotics | *Independent Research Project in Engineering* Jan 2022 – Present
- Assembled one-pound combat robot with 3D-printed body, Arduino Nano, IMU sensor, and omni wheels
- Implemented closed loop integration on encoder-free drive motors for field-oriented sensing and driving
- Designing PCB board with KiCAD to connect motor drivers, IMU sensor, the Nano, and PWM signal receiver

Bell & Howell | *Project Co-Lead working with the Company's Engineering Team* Aug 2021 – Dec 2021
- Iteratively designed and tested automated door closing mechanism for company's refrigerator locker units
- Led electrical circuitry design team to design CAD simulations of working Arduinos and NEMA 17 stepper motors

Leadership / Organizations

Duke Engineering Student Government | *Deputy Treasurer* Sep 2021 – Present
- Created annual $125,000 budget plan covering 15+ school-wide events and funding 20+ clubs
- Campaigned and was elected as treasurer representative for 1200+ undergraduate engineers

Society of Women Engineers (SWE) | *Member of National Organization* Sept 2021 – Present

Fision Lens Startup | *Co-Founder and Chief Technology Officer (CTO)* Jan 2019 – Oct 2021
- Startup company with patent-pending optical lens that won $40,000 in 7 pitching contests and 2 accelerators

Skills

Technical languages: Java, SQL, C, Python, C++ (learning this summer), MIPS assembly language, MATLAB
Software/framework: VS Code, Git, PyTorch, Simulink, Snowflake, DataRobot, Anaconda/Spyder, QtSpim, Confluence,
Interests: volleyball, building robots, kayaking, rock climbing, music, traveling/sightseeing