

Sheng He Lu

540-558-3357 | lushenghe96@vt.edu | www.linkedin.com/in/sheng-he-lu | github.com/lushenghe96vt

EDUCATION

Virginia Tech

Bachelor of Science in Computer Engineering
GPA: 3.57

Blacksburg, VA

Aug. 2022 – May 2026

EXPERIENCE

Development Operations Intern

Scotiabank

May. 2024 – Aug. 2024

Toronto, ON

- Helped migrate environments from on-premises to GCP and Azure in Toronto
- Worked with Splunk and Dynatrace to help teams at Scotiabank streamline applications
- Developed python scripts to automate monitoring daily performance for both on-premises and production servers

MATH 2114 Grader

Virginia Tech

Aug. 2023 – May. 2024

Blacksburg, VA

- Responsible for grading one section of MATH 2114 (Linear Algebra) for the 2023 fall semester and the 2024 spring semester
- Worked closely with faculty in the Virginia Tech Math department

PROJECTS

Infrared Radioteletype System | *Arduino, Digital/Analog Filters, Amplifiers*

Aug. 2022 – Dec. 2023

- Homemade radioteletype transmitter + receiver that used an infrared LED and a sensor to transmit.
- Designed filters, amplifiers, rectifiers, etc. with simple resistors, capacitors, op amps, and diodes to transmit longer distances.
- Arduino software designed to encode and decode RTTY transmission from bits to alphanumeric and vice versa.
- Goes up to 30 ft of stable transmission distance.

MSP432 Audio/Visual Game | *Embedded C, Hardware Abstraction, RTOS*

Jan. 2024 – May. 2024

- Used MSP432 educational board from TI to build a simple game that tested reaction speed.
- Developed efficient, memory conscious embedded software.
- Worked with MSP432/Launchpad driver libraries and standard C libraries.
- Created hardware abstraction layers to interact with leds, buttons, joystick, and led screens.

Extended Kalman Filter | *ROS2, Matlab (Robotics Toolbox), UART*

Aug. 2023 – May. 2024

- Member of the auto aim team in the computer vision branch at RoboGrinder, a robotics competition team at Virginia Tech.
- Developed robust Kalman filter that predicted opponent robot positions and adjusted the sentry turret on our own robot for targeting.
- Dealt with communication between robot movement, robot turret targeting, coordinate mapping from robots camera etc.

MIPS Decompiler | *MIPS Architecture, Machine Code, Assembly*

Aug. 2024 – Dec. 2024

- Decompiler built in C++ is capable of translating register type, immediate type, and jump type instructions.
- Integrated robust error-handling mechanisms to ensure accurate decoding and provide meaningful feedback for invalid or unsupported instructions.

TECHNICAL SKILLS

Languages: C, C++, Java, Python, R, Verilog, Arduino

Developer Tools: Git, Visual Studio, VS Code, MIPS, Jira, Microsoft Teams

Libraries: NumPy, MSPDRIVERLIB, Matlab Robotics System Toolbox