

Loc (Donovan) Tran

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Work Experience

Schweitzer Engineering Laboratories, Pullman WA

Jan 2021 - Present

Software Engineer (Full-time)

- ❖ Served as firmware lead for 5+ projects, architecting C/C++ solutions for embedded relays and automating build deployment with Jenkins, enhancing system reliability by 15% across 10 different SEL-4XX devices while reducing build time by 20%.
- ❖ Designed and optimized protection system logic on a VLIW processor using SHARC Assembly, cutting processing load by 10% and speeding response across all SEL4XX devices.
- ❖ Troubleshoot real-time power-system signal using Omicron and SynchroWave, ensuring 90% issue resolution.
- ❖ Collaborated cross-functionally with hardware, software, and product teams to optimize product performance and drive continuous improvements in firmware reliability and efficiency.
- ❖ Managed project timelines, prioritized tasks, and mentored junior engineers, fostering a culture of innovation and excellence in embedded systems development.

Varsity Tutors, Seattle WA

Sep 2020 - Dec 2020

Electrical Engineering and Computer Science Tutor (Full-time)

- ❖ Provided personalized tutoring to over 100 students across diverse programming skill levels in C/C++ and Java, improving average student performance by 20% on assessments.
- ❖ Taught weekly Python classes to 20 middle schoolers, improving concept mastery by 15%.
- ❖ Guided 2 engineering majors in embedded systems, with 80% finishing capstone projects early.

Vascusight, Seattle WA

June 2019 - August 2019

Software Engineer Intern (Full-time)

- ❖ Built a liver-blob detection algorithm for IVC 3D modeling from ultrasound, enhancing accuracy by 25% for 40 scans.
- ❖ Used MATLAB's graph-based segmentation, improving visualization by 35% and cutting processing time by 3 minutes/dataset.

Projects

Sypholingo | React.js, Express.js, Vite, OpenAI, SunoAI

- ❖ Hackathon winner project. Built an AI-powered language learning app that generates original songs in a user's target language based on their preferred genre.
- ❖ Integrated SunoAI for music generations and OpenAI for lyric translation and annotation, which helps teaching concepts.

Embedded System Capstone: Predictive Pulse Oximeter | C, C++, Python, JavaScript

- ❖ Developed non-invasive pulse-oximeter sensor to make interpretable prediction of patients being at risk of hypoxemia (low oxygen saturation level)
- ❖ Developed a deep learning classification algorithm on Raspberry Pi using Python Keras and Tensorflow libraries and obtained human-research clinical dataset for training and testing purposes.
- ❖ Obtained a hypoxic prediction model with 76% accuracy

Achievements

CrimsonCode Hackathon 2025, Best GenAi Winner & Main Track Winner

Developed Sympholingo, and AI-powered language learning app that integrates openAI and Suno API to teach languages through music (<https://devpost.com/software/sypholingo>)

AgAID Digital AgATHON 2025, 2nd Place Winner

Developed an AI-powered LSTM model with PyTorch and CUDA for snowpack prediction, enhancing water resource management in the Western U.S. through spatial-temporal data processing (<https://www.linkedin.com/in/loctran710/>)

Technical Skills

Programming Languages: C/C++, Python, Java, JavaScript, CSS, SQL

Tools & Cloud Services: AWS, Docker, Git, Github, Bitbucket, ClearCase, Confluence, Jenkins

Framework & Technologies: React.js, Node.js, BootStrap, Express.js

Education

Georgia Institute of Technology, GA

Degree Expected: June 2027

Master of Science in Computer Science

GPA: 4.00/4.00

University of Washington Seattle, WA

Graduated June 2020

Bachelor of Science in Electrical Engineering

GPA: 3.62/4.00