Liam Drew

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Education

Tufts University May 2025
Bachelor of Science in Computer Science. Graduated summa cum laude. GPA: 3.85/4.00 Medford, MA
Relevant Coursework: Operating Systems, Networks, Machine Structure, Machine Learning, Computer Vision

Experience

Tufts University Computer Science Department Medford, MA
Data Structures Teaching Fellow Aug. 2024 - May 2025
- Developed and maintained cloud-based course infrastructure for 150 students and 30 TAs
- Taught data structures concepts to 25 students in a weekly lab

Data Structures Teaching Assistant Jan. 2023 - Aug. 2024
- Answered C++ questions during weekly office hours

Dark Arts Software Seattle, WA
Software Engineer Intern June 2024 - Aug. 2024
- Developed and tested GANs to generate partner dancing motion for a VR dance game
- Modified data pipelines to support processing data at different frame rates, improving motion quality
- Applied state-of-the-art motion generation methods (Deep-Phase Neural Networks) to generate dancing motion using PyTorch, ONNX, and Unity

DataAnnotation San Jose, CA
Contract Software Engineer Dec. 2023 - May 2024
- Prompted LLM chatbots with programming questions and evaluated responses

Ward's Berry Farm Sharon, MA
Team Leader Summers 2019 - 2023
- Led a team of farm workers, cultivated crops using a variety of machines and tools

Projects

UM-JIT | C, ARM assembly, x86 assembly, Docker | Link Jan. 2025
- Implemented a high-performance "Universal Machine" virtual machine with a just-in-time compiler
- Built a compiler backend from RISC-style Universal Machine assembly language to native machine code
- Engineered compatibility for ARM and x86 platforms
- Used profiling tools to achieve a 3x performance improvement over an emulator-based implementation

Fact-Checker | C, Python, JavaScript, TCP | Link Dec. 2024
- Implemented a HTTPS Proxy customized for fact-checking Quora posts in C
- Enhanced Quora responses with LLM-based fact-checking through API integration

Virt32 | C, Docker | Link Mar. 2025
- Led a team effort to design and build an application-specific memory allocator for 32-bit VMs on 64-bit systems
- Improved virtual machine runtimes by 12.4% under memory-intensive workloads

Go-Back-N | C, UDP | Link Nov. 2024
- Programmed a sliding window protocol on top of UDP for reliable file transfer over unstable networks

Deep Cut | Robotics, Microcontrollers, CAD, Fabrication | Link Jan. 2023
- Constructed a battle bot and competed in Norwalk Havoc Robotics League (NHRL)

Awards

National Merit Scholar - The Nueva School, 2021 San Mateo, CA

Skills

Languages: C/C++, Python, Swift, JavaScript, ARM/x86 assembly, Metal, SQL, Java
Developer Tools: Linux, Git, Docker, PyTorch, React