Abhishek Enaguthi

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Objective: Seeking 2025 internship in Compilers, GPU Programming, HPC, Systems Software, Low-Level Systems

Education

Oregon State University **September 2022 - June 2026**

Bachelor of Science in Computer Science (AI), Minor in Finance *GPA - 3.95*

Relevant Coursework: DSA, Computer Architecture, Compilers, Operating Systems, Distributed Systems

Skills

Languages: Python, C, C++, Typescript, SQL, Java, Javascript, Kotlin, Rust, Swift

Frameworks: LLVM, CUDA, AWS, Docker, PostgreSQL, Terraform, Kubernetes, Tableau

Soft Skills: Product Management, Leadership, Problem Solving, Interpersonal Communication, Resource Management

Experience

AI Systems Software Internship (AI Student Researcher) **March 2024 - Present**

College of Earth Science at OSU *Corvallis, Oregon*

- Presented digital twin project at **Supercomputing 24**, showcasing advancements in **server room simulation** for OSU's new supercomputing facility
- Developed a **digital twin** automation in NVIDIA Omniverse to simulate HPC server rooms, optimizing rack layouts and improving energy efficiency by 50%
- **Authored** work on **compiler technology** for IBM POWER9, x86, and AMD ROCm, accelerating GPU development and boosting ML and data processing performance by 30%
- **Awarded** research grant from AMD and IBM to enhance compiler optimizations for high-performance computing

Salesforce Lead CRM Developer **March 2024 - September 2024**

Oregon State University *Corvallis, Oregon*

- Developed in an Agile environment using Jira and collaborating with cross-functional teams through scrum sprints
- Implemented **CI/CD pipelines**, leveraging automation to reduce average resolution time by 50%
- Developed and optimized Salesforce CRM components using **Apex**, and JavaScript contributing 80% of development and a 90% reduction in user-reported issues

Projects

Tesla Video Q&A Challenge — StanfordHacks 2025 | *Python, DETR, Gemini, Parallel Processing* **March 2025**

- Built a **Vision-Language Model** (VLM) pipeline using DETR for object detection and Gemini for reasoning, achieving 70% accuracy on 50 test videos
- Processed **250+ Tesla videos**, generating real-time, context-aware responses to complex visual queries, benchmarked against Tesla's internal models
- Optimized inference speed with NVIDIA H100 GPUs and parallelized Gemini API calls, significantly reducing video processing time

Custom Compiler Development | *LLVM, Compiler Design, C++, Rust, Assembly, Flex, Bison* **January 2025**

- Built a **custom compiler** with an LLVM backend to translate high-level code into optimized machine instructions
- Implemented a **graph-based register allocator**, reducing execution time and improving memory efficiency by **30%**
- Developed lexical analysis and parsing using Flex and Bison, optimizations like **constant folding** and **loop unrolling**

Leadership & Extracurriculars

- OSU Engineering Student Council — **Chair of Development** **Feb 2024 – Present**
- OSU Indian Student Association — **Public Relations** **May 2023 – June 2024**
- OSU Hackathon — **Outreach Coordinator** **Dec 2023 – June 2024**