Piyush Jadhav

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Education

California State University, Chico — Chico, CA
MS in Computer Science — *Aug. 2024 – May 2026*

Vishwakarma Institute of Technology — Pune, India
Bachelor of Technology, Computer Science — *Aug. 2016 – May 2020*

Technical Skills

Languages: C/C++, JavaScript, TypeScript, HTML, CSS, Java, CUDA-C++, Python, C#

Frameworks/Libraries: React, Redux, Node.js, GraphQL, .NET Core, Pytorch, Skia

Tools & Database: Git, H.264, LLVM, SQL, NoSQL(MongoDB), Elasticsearch, Azure, AWS, GCP

Other: Agile, Linux OS, Docker, Compilers, Image, Audio & Video compression algorithms, OOP, Design Patterns, SDLC, GPU

Work Experience

R&D Software Engineer — July 2021 – July 2024
Dassault Systèmes — *Pune, India*

- Developed **C++** APIs for **OpenAL audio** library and added support for .mp4 **video** codecs using **H264** compression library for 3DEXPERIENCE application on Linux platform
- Integrated **Skia 2D graphics** library for rendering vector graphics & raster images on the screen and used it for generation multimedia output formats like PDF, SVG, JPEG, PNG, TIFF
- Secured major vital clients by debugging and fixing more than **70** critical issues related to **Multimedia/Print**
- Conducted complex debugging and root cause analysis of multi-threaded image processing pipeline, resolving race conditions and memory corruption issues in production environments
- Resolved critical memory leaks in multimedia/print 2D workflow, leading to a **30%** improvement in memory utilization and a significant reduction in system crashes

Software Engineer — Sep. 2020 – June 2021
Emtec Technologies — *Pune, India*

- Worked on Logistics tracking management system application using **TypeScript-React** on frontend and **.NET** Core on backend. Implemented new functionality by building reusable, efficient React components with apollo client to consume **GraphQL** queries, mutations
- Successfully refactored the code by writing common component, thus reducing page response time by **90%**

Software Engineering Intern — Jan. 2020 – June 2020
NVIDIA Corporation — *Pune, India*

- Contributed to **compiler development** for autonomous vehicle applications, focusing on **instruction set architecture, compiler toolchains, and register conventions** for CUDA architectures
- Implemented key features for a new instruction set architecture on current and future **CUDA** architectures by developing compiler toolchains, defining register allocation conventions, and configuring ELF parameters to optimize code generation and execution
- Gained exposure to **quantization** techniques and contributed to **MLIR-based** compiler toolchain development
- Experienced in compiler optimizations, code generation, semantic analysis, and comprehensive compiler design

Projects

CalHacks Hackathon Project: AI Legal Advisor Using LLM | Python, PyTorch, Flask, GCP — 2024

- Fine-tuned a Large Language Model (LaMini) for a legal advisory application, enabling ChatGPT-style interactions. Utilized custom datasets to specialize the model for legal contexts, addressing legal queries with improved accuracy
- Deployed the model on GCP and integrated Flask for creating a RESTful API, enabling smooth deployment and model interaction

E-commerce Website | JavaScript, ReactJS, ExpressJS, MongoDB — Aug. 2019 – Dec. 2019

- Implemented an e-commerce website using RESTful web APIs using React and NodeJS

Simulation of Operating System | C++ — Aug. 2018 – Dec. 2018

- UNIX-style OS, implemented using C++ structures, with jobs scheduler having instruction set with error handling