Dev Thakkar

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Education

Purdue University — West Lafayette, IN
BS in Computer Engineering, GPA: 3.68 — *Aug 2021 – Dec 2024*
MS in Computer Engineering, GPA: 3.65 — *Aug 2023 – Dec 2025*

Technical Skills

Cloud and DevOps: AWS (Certified Cloud Practitioner), Docker, Kubernetes, Terraform, CircleCI
Languages: Python, C, C++, TypeScript, JavaScript, MATLAB, Verilog
Coursework: Data Structures, Operating Systems, Artificial Intelligence, Software Engineering, Networks, Compilers

Experience

Software Test Engineering Intern | *Python, C, C++, Docker, CAN* — Los Angeles, CA
Harbinger Motors — *May 2024 – Aug 2024*

- Automated vehicle display testing using template matching and OCR, eliminating manual display testing
- Led labcar testing after each SW release, organized triage meetings to discuss and assign bugs
- Performed vehicle bring-up tasks, including flashing and calibrating the latest software on numerous test vehicles
- Developed and optimized display features in C++, enhancing functionality while reducing RAM usage by 40%
- Containerized CI/CD pipelines with Docker on CircleCI, reducing execution time by 20%

Systems Engineering Intern | *MATLAB, Simulink, Python, C, CAN* — Lafayette, IN
ZF Group — *May 2023 – Aug 2023*

- Automated Simulink Model generation from C++ using MATLAB, saving 10+ hours of manual work per project
- Engineered Python-based system for automated test data analysis, facilitating identification of anomalous spikes
- Redesigned ECU Hardware-in-the-Loop testing system, reducing latency by 80% improving data capture rate

AI and Data Science Teaching Assistant | *Python, PyTorch* — West Lafayette, IN
Purdue University — *Aug 2022 – Dec 2024*

- Served as teaching assistant for Artificial Intelligence and Python for Data Science, helping with fundamentals
- Evaluated programming assignments and conducted office hours to reinforce core concepts and provide assistance

Undergraduate Research Assistant | *Python, PyTorch, TensorFlow* — West Lafayette, IN
GoogleML × Purdue, SERIS Research Lab — *Jan 2023 – Aug 2023*

- Implemented a Transformer Decoder for MaskFormer, enabling integration into TensorFlow Model Garden
- Adapted a Linear Classifier within the segmentation module, ensuring accurate class probability predictions

Projects

Clipper | *Automated highlights generation with AI Commentary* | *Python, React.js, AWS* — Jan 2024 – May 2024

- Developed custom algorithm to generate basketball highlights with context-aware commentary from full games within 8 minutes, leveraging background noise and OCR to achieve over 90% similarity with professional highlights
- Integrated OpenAI API for real-time transcription and dynamic generation of two-person game-like commentary
- Deployed React web app utilizing AWS Amplify, ensuring scalable, cost-efficient video processing and delivery

Internal Package Registry | *Full Stack* | *TypeScript, React.js, REST API, AWS, MongoDB* — Aug 2023 - Dec 2023

- Designed a Web App/REST API mirroring npm functionalities, leveraging MongoDB, AWS, React.js, Typescript
- Engineered a robust CI/CD pipeline using AWS Elastic Beanstalk and CodePipeline, incorporating auto scaling and load balancing to enhance application performance and reliability
- Implemented RESTful API with 14 endpoints, achieving response times under 150ms for critical operations

Reliable Data Transmission Protocol | *Python, TCP* — Jan 2024 – Mar 2024

- Designed an efficient network transmission protocol that combines selective ACK and cumulative ACK approaches, boosting data transfer speeds by 60% while keepin overhead to a minimum
- Enhanced TCP protocol performance, achieving 15% higher data transfer rates and reducing overhead by 10% in a Python-based network emulator.