

Divy Patel

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Education

Arizona State University (ASU), Tempe, AZ

Aug. 2022 – Dec. 2023

Master of Science in Computer Science (MSCS) (GPA: 3.55/4)

Pandit Deendayal Energy University (PDEU), India

Apr. 2018 - May 2022

B.Tech in Information and Communication Technology (GPA: 9.22/10)

Technical Knowledge

Programming Languages: C++, Python, R, Java, JSON, C#, SQL (MySQL, PostgreSQL)

Frameworks: OpenCV, TensorFlow, PyTorch, Scikit-learn, Docker, AWS, Jira, Agile/Scrum

Tool and Technologies: Computer Vision, Face Tracking, Gaze Tracking, Biometrics, Algorithm Optimization with Platform Constraints, Real-time Systems

Development Areas: Software Development, Machine Learning, AI Model Development

Work Experience

PetSmart, Phoenix, Arizona

Software Developer

May 2023 - Present

- Developed and deployed over 25+ Python and Django-based microservices using Docker on AWS, focusing on real-time data processing.
- Improved transaction speed by **15%** and optimized system performance using advanced algorithm implementation in MS SQL Server.
- Spearheaded the integration of Flask and GraphQL to enhance API responsiveness and query efficiency.
- Led QA testing with PyTest and Selenium, automating tests to improve accuracy in identifying platform-specific performance bottlenecks.

Quartic.ai, Remote (San Jose, CA)

Data Engineer

Jul. 2021 - Jun. 2022

- Engineered a robust data pipeline for real-time processing and analytics using Python, GraphQL, and Redis.
- Developed live dashboard for real-time monitoring with Grafana, collaborating with cross-functional teams to enhance data-driven insights.
- Contributed to optimizing algorithmic performance under resource constraints by implementing efficient data preprocessing techniques.

HOPS Healthcare, India

Artificial Intelligence Intern

Apr. 2021 - Dec. 2021

- Designed and implemented a mobile-based skin disease detection system using TensorFlow and OpenCV, achieving **85%** accuracy.
- Developed noise reduction algorithm to enhance signal clarity for smartphone-based heart condition detection, focusing on real-time processing.

Projects

LLM for Document Based Question Answering 🔄

Project

- Developed Large Language Model (LLM) using RAG implementation to interpret PDFs, CSV, and JSON files, with **98%** accuracy.
- Integrated LangChain for efficient data retrieval, enhancing response accuracy in complex query scenarios.

Student Drowsiness Detection System 🔄

Project

- Built a system to detect drowsiness in real-time using TensorFlow, OpenCV, and CNNs, achieving **93%** accuracy.
- Managed large datasets and implemented memory-efficient CNN training, optimizing performance for real-time video feeds.

Skin Disease Detector App 🔄

Google DSC Hackathon

- Led the development of skin disease detector app during a 24-hour hackathon, using TensorFlow Lite for real-time classification.
- Developed an AI-based mobile app during a Google DSC Hackathon using TensorFlow Lite, achieving an **82%** accuracy rate.
- Integrated OpenCV for preprocessing tasks, focusing on enhancing the model's on-device efficiency for constrained platforms.

Smart Campus Human Detection

Project

- Created a neural network model using 2D and 3D CNNs for human presence detection in a smart campus setting, with **98%** accuracy.
- Annotated and processed 3D LiDAR camera data, collaborating with hardware teams to optimize sensor integration and model performance.

Node Classification in Graph Networks Using GNNs

ASU

- Developed and tested Graph Neural Network models (GCN, GAT, GraphSAGE), achieving a **90.16%** accuracy on the Cora dataset.
- Implemented advanced techniques such as attention mechanisms to optimize the classification process.

Bus Number Recognition System 🔄

Project

- Developed a bus number detection app using OpenCV and EasyOCR to identify and announce bus numbers for visually impaired users.
- Developed to a cloud-based solution using Google Cloud Services for processing the live video feeds.
- Integrated Arduino with Singapore government systems to fetch real-time bus arrival data and provide announcements.

Graph Operations and Search 🔄

ASU

- Developed Java application for graph operations, with features like parsing DOT files, node and edge management, and visualization.
- Developed and integrated search algorithms including Breadth-First Search (BFS), Depth-First Search (DFS).
- Focused on software craftsmanship, employing design patterns for scalable and maintainable code.

Recent Achievements

- Publication in "MaterialsToday: Proceedings" on "[Artificial intelligence powered material search engine](#)"
- Led the team securing 2nd Prize in hackathon organized by Google's Developer Student Committee
- Led the team securing 2nd Prize in hackathon organized by Nirma University

Apr. 2022

Mar. 2021

Mar. 2021