

# 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:** Python, R, Java, JSON, C++, C#, HTML5, CSS, JavaScript, SQL (MySQL, PostgreSQL), GraphQL

**Frameworks:** RESTful APIs, Pandas, Seaborn, Matplotlib, Numpy, TensorFlow, PyTorch, OpenCV, Scikit-learn, LangChain

**Tool and Technologies:** LLM, NLP, Version Control, CI/CD, Amazon Web Services (AWS), Docker, Jira, Agile, Scrum

## Work Experience

**PetSmart**, Phoenix, Arizona

**Software Developer**

May 2023 - Present

- Developed 25+ Python and Django-based microservices, deployed on Docker and Kubernetes on AWS and implemented CI/CD pipelines.
- Improved transaction speed by **15%** and data retrieval speed by **20%** with MS SQL Server optimizations.
- Revamped API with Flask and GraphQL, boosting query responsiveness.
- Integrated automation solutions for managing cloud-based systems and improving operational efficiency.
- Led QA testing with PyTest and Selenium, automating the testing process and reducing the common bugs.

**Quartic.ai**, Remote (San Jose, CA)

**Data Engineer**

Jul. 2021 - Jun. 2022

- Implemented data pipeline for pre-processing live data feeds with Python, GraphQL, and Redis with CI/CD integration.
- Optimized the data pipeline to enhance predictive analytics and real-time risk monitoring.
- Developed a live dashboard for risk monitoring using Grafana and ReactJS.
- Utilized problem-solving skills to address complex data-related issues and streamline workflows.

**HOPS Healthcare**, India

**Artificial Intelligence Intern**

Apr. 2021 - Dec. 2021

- Achieved **85%** accuracy in mobile-based skin disease detection by implementing OpenCV, TensorFlow and CNNs.
- Collaborated with cross-functional teams to improve the accuracy of mobile-based disease detection systems.
- Developed noise reduction algorithm in Python, aiding for detection of heart conditions from smartphone-recorded stethoscope sound.
- Utilized strong written communication skills to document processes and communicate with stakeholders.

## 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.
- Used LangChain for efficient storage and retrieval, ensuring accurate responses by implementing Prompt Engineering.
- Enhanced chat automation processes by testing model performance on diverse and complex queries.

**Smart Parking Database Management System** 🔄

**PDEU**

- Led development of comprehensive database management system for smart parking lot application.
- Generated 24,000 entries of dummy data to thoroughly test and validate the functionality of the database management system.
- Created comprehensive documentation with SQL queries, query output snapshots, and CSV exports for database testing and analysis.

**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.
- Preprocessed and augmented Harvard skin disease images using OpenCV and did model tuning to achieve **82%** accuracy.
- Developed and integrated the model into an Android app for disease classification via smartphone camera and to find nearest dermatologist.

**Student Drowsiness Detection System** 🔄

**Project**

- Extracted 57,488 images from ultraLDD dataset, applied masking using dlib, faceutils along-with OpenCV to focus on eyes and mouth.
- Optimized data handling with a custom TensorFlow data generator for memory-efficient CNN training, achieving **93%** accuracy.
- Implemented real-time prediction from live camera feeds or saved videos, displaying drowsiness detection results with overlay on the screen

**Smart Campus Human Detection**

**Project**

- Annotated a dataset used for a smart campus project involving human detection with a 3D LiDAR camera.
- Developed and tested a Neural Network AI model using 2D and 3D CNNs to detect human presence, achieving **98%** accuracy.
- Contributed to the development of a smart campus solution aimed at monitoring and managing crowd density in campus areas.

**Brain Tumor Recognizer App** 🔄

**Microsoft Azure Hackathon**

- Developed AI model for real-time image classification of 2-D brain MRI scans using TensorFlow Lite and Azure's Custom Vision Service.
- Implemented Azure Machine Learning to automate model training and deployment, resulting in a **20%** increase in deployment efficiency.
- Developed and exported a TensorFlow Lite model, integrated it into an Android app for mobile healthcare via smartphone camera.

## Recent Achievements

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

Apr. 2022

Mar. 2021

Mar. 2021