Vishal Patil

Phone: +1(720)-742-9281 mail: vishal.v.patil@ucdenver.edu LinkedIn GitHub

Solid Computer Science foundation with hands-on project experience and strong object-oriented programming expertise.

Education

University of Colorado Denver Master of Science in Computer Science **Aug 2022-May 2024**

Certifications

AWS Certified Developer – Associate

Technical Skills

Languages: Python, C/C++, HTML, CSS, JavaScript, TypeScript |**Technologies**: React.js, Flask, TensorFlow, PyTorch, SQL, Pandas, NumPy, Relational Database, Scikit-learn, Keras, Git, GitHub, Bitbucket, JUnit, UML, Swagger, JSON, Jenkins, WebSphere, Sonar

Professional Experience

Tangible Industries (*Denver, CO*) **July 2024-Present**

Software Engineer I

- Led the development of a React and Flask web application to convert 100+ DICOM images into 3D models, improving diagnostic accuracy by 80%. Collaborated with surgeons to ensure solutions met clinical needs and deployed efficient Docker containerization.
- Enhanced backend processes with Python, boosting data efficiency by 40% and enabling real-time 3D rendering for dynamic analysis and precise 3D printing. Integrated React with vtk.js for intuitive 3D visualization, improving accessibility for medical professionals.

University of Colorado Inworks (Denver, CO) **Oct 2022-May2024**

Software Developer-3D Visualization Platform (React, python, Flask)

- Led interns to develop Python and Rhino 3D tools, automating workflows to create 30+ accurate heart replicas for surgical planning and education. Collaborated with industry professionals to accelerate prototyping.
- Designed 10+ pediatric heart valves using computational modeling, improving treatment planning by 30–40% and reducing surgery time. Presented outcomes to stakeholders, demonstrating problem-solving, communication, and teamwork skills.

TCS India (Pune, INDIA) **Jan 2022 – June 2022**

Associate System Engineer

- Developed a web application using React.js, JavaScript, HTML, and CSS to optimize deployment processes, improve performance, and accelerate release cycles. Designed responsive, user-friendly interfaces to enhance design consistency and user experience.
- Implemented REST web services and microservices with Git, SQL, and PL/SQL, ensuring efficient data handling. Collaborated in Scaled Agile Framework (SAFe) practices using Jira and Confluence to streamline workflows and drive project success.

Projects

Face Recognition using AWS Rekognition &AWS SageMaker| *PyTorch, Rekognition, SageMaker*

- Developed a facial recognition system using OpenCV and PyTorch, enhanced with Plotly and Matplotlib for visualization, to analyze and mitigate adversarial attacks.
- Integrated AWS Rekognition and SageMaker via Python's boto3, utilizing torchattacks to deploy secure, adversarially trained AI models.

Threat Detection using GAN | *PyTorch, matplotlib, Pandas*

- Implemented a Generative Adversarial Network (GAN) in Python using PyTorch and NumPy to simulate data generation and anomaly detection, enhancing the machine learning model's training and predictive accuracy.
- Utilized pandas for data handling, matplotlib and mpl_toolkits for 3D data visualization, and sklearn metrics for model evaluation, achieving precision and recall optimization in predictive modeling.

Fake News Detection | *Python Flask, HTML, CSS*

- Built a fake news detection model using Python Flask, achieving 98% accuracy on the Kaggle news dataset through advanced preprocessing techniques like stemming and tokenization, and leveraging the Gradient Boosting algorithm for prediction.
- Designed and developed a user-friendly webpage to enhance UX, allowing users to input a news URL and view detection results with a confidence rating.

E-commerce Sales Analytics using BigQuery | *Google Cloud Platform, BigQuery*

- Analyzed millions of e-commerce transactions using BigQuery, uncovering sales trends and optimizing product performance, leading to a 15% sales increase during peak seasons. Conducted customer segmentation with SQL in BigQuery, enabling targeted marketing campaigns that boosted retention by 20%.
- Automated inventory reporting with BigQuery and Google Sheets, reducing overstock by 25% and minimizing stockouts, streamlining inventory management for greater efficiency.