ADIT PATEL

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Experience

Data Engineering Intern, eChemPortal, Inc., Texas, USA **May 2024 – August 2024**

- Executed a zero-shot classification model (DeBERTa) in Python, achieving 99% accuracy in email categorization for internal workflows and reducing manual sorting time by 30%, streamlining entire email management process.
- Automated chemical entity extraction using BERT-based NER and ChemDataExtractor, boosting data processing speed by 25%, minimizing manual errors by 50%, and boosting data reliability for chemical inventory tracking.
- Designed and deployed a chemical price predictor leveraging SQL and logarithmic regression models, resulting in a 20% increase in sales conversions, while refining pricing strategies and elevating overall sales forecasting.

Software Development Intern, Moltech Solutions, Ahmedabad, India **January 2023 – May 2023**

- Directed state management in React using TypeScript/JavaScript, developing 100+ APIs with .NET and C#, and implementing 100+ stored procedures in MS SQL Server utilizing MySQL, resulting in 8 high-performance web applications, improving functionality and leading to a 40% boost in user engagement and satisfaction.
- Increased work efficiency by 15% through cross-functional collaboration with Git, ensuring on-time project delivery.
- Streamlined multithreaded applications in C# and Python, decreasing processing times by 20% and upgrading system stability, leading to smoother performance and advancing user experience across diverse platforms.

Frontend Development Intern, Moltech Solutions, Ahmedabad, India **October 2021 – March 2022**

- Drove development of 5 live applications, improving UI design and boosting user satisfaction by 35%, utilizing HTML, CSS, and JavaScript to create user-friendly, visually appealing, and responsive interfaces across multiple platforms.
- Streamlined design iterations by 50% and optimized page load speeds by 15% through SEO optimization and performance enhancements, leveraging Figma, Bootstrap, and React.js for faster and more efficient development.

Education

Master of Computer Science **May 2025**
Arizona State University, Tempe, Arizona *3.70/4.00*

Bachelor of Technology in Information and Communication Technology **May 2023**
Pandit Deendayal Energy University, Gandhinagar, India *3.83/4.00*

Projects

AWS Serverless Video Analysis Platform

- Developed and optimized a scalable video analysis platform on AWS using Lambda, S3, IAM, and CloudWatch, integrating FFmpeg for efficient video processing and ResNet-34 for accurate face recognition across large datasets.
- Enhanced security and performance with custom auto-scaling, CloudWatch monitoring, and API Gateway integration for seamless data flow, utilizing Python and AWS SDKs for automation and task orchestration.

Automatic Number Plate Recognition

- Built a deep learning-based system achieving 94.29% accuracy for real-time license plate recognition, leveraging InceptionV3 and ResNet50 models for advanced object detection, segmentation, and recognition tasks.
- Integrated OpenCV and TensorFlow for image preprocessing and model training, with deployment on edge devices for real-time inference using Python, ensuring high-speed, reliable performance in live environments.

Interactive Data Analytics Visualizations

- Created dynamic D3.js visualizations, including time series charts, scatter plots, Sankey diagrams, and beeswarm charts, with zoomable charts, playback options, and dynamic radial graphs for intuitive data exploration.
- Developed an interactive analytics system for economic trends using global datasets, incorporating data handling with JavaScript, Python, and APIs to process, transform, and visualize data in real-time with seamless user interactions.

Eye Health Monitoring System

- Utilized the TCS34725 RGB sensor to measure blue light emissions (415-455 nm) from digital screens and established correlations between screen size, light intensity, and emission levels for health impact assessments.
- Implemented K-Nearest Neighbors (KNN) and Naive Bayes algorithms to classify sensor data and analyze blue light's effects on eye health, published in the IEEE 8th International Conference for Convergence in Technology, showcasing machine learning, sensor integration, data analysis techniques, and it's practical applications in health monitoring.

Technical Skills

Programming Languages & Concepts: HTML, CSS, JavaScript, Python, C/C++, C#, Embedded C, Object-Oriented Programming (OOP), Data Structures, MySQL
Web Development Technologies: Node.js, React.js, Next.js, Express.js, Data Visualization - D3.js, React Native, Bootstrap, .NET, WordPress, Magento 2, Figma, PHP, Microsoft Excel, Power BI
Machine Learning & AI: Supervised Learning, CNN, ResNet-50, YOLO, Artificial Intelligence, OpenCV, Transformers (BERT, DeBERTa), NER Models (BERT, CRF), PyTorch, Scikit-learn, TensorFlow, Pandas, Numpy, Matplotlib, Seaborn
Databases & Cloud: AWS, Microsoft SQL Server, DBMS, MongoDB, MySQL Server, Docker, Git