Vedant Bajaj

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EDUCATION

Master of Science in Computer Engineering Aug 2024 – May 2026
University of Texas at Dallas GPA – 3.6
Coursework: Machine Learning, Statistical Methods in ML/AI, Applied Data Structures and Algorithms

Bachelor of Technology in Computer Engineering Aug 2018 – May 2022
University of Pune GPA – 3.7
Coursework: Data Structures and Algorithms, Object Oriented Programming, Database System, Machine Learing

TECHNICAL SKILLS

Programming Languages: Python, C++, Java; **Database Management**: MySQL, SQL Server

Software Development: Object-Oriented Design, REST APIs, Version Control (Git); Agile Development

Machine Learning and AI: TensorFlow, Scikit-learn, Computer Vision, Natural Language Processing

Technologies & Tools: OpenCV, Pytesseract, NumPy, Pandas, Data Analysis

Web Development: Django, API Development, Backend Development, Web Scraping, HTML, CSS

PROFESSIONAL EXPERIENCE

Software Engineer, Rabbit and Tortoise Technology, India Nov 2022 – Sep 2023

- **Automated Document Processing System:** Implemented an OCR pipeline using Python, OpenCV, and PyTesseract, achieving 95% text detection accuracy and reducing manual processing time by 50%.
- Applied advanced image preprocessing, reducing noise by 90% and improving text extraction efficiency.
- **Intelligent Speech-to-Text Grocery Management System:** Developed an end-to-end speech recognition system using Google Speech-to-Text API and Python, achieving 98% transcription accuracy.
- Engineered regex-based text processing system to extract items, quantities, and prices from transcribed text, automating shopping list and automatically generating structured shopping lists with 95% accuracy.

Software Engineer Intern, Bizsol IT Services, India Aug 2021 – Dec 2021

- Developed SQL Server-based data integration system, reducing manual reconciliation time by 60%.
- Optimized database queries and implemented indexing strategies, improving query performance by 40%.
- Created interactive dashboards for data visualization, enhancing business intelligence capabilities.

PROJECTS

Data Analysis Pipeline, University of Pune, India

- Designed ETL pipelines using Python, NumPy, and Pandas for processing large-scale datasets.
- Applied automated data cleaning workflows, reducing preparation time by 50% and improving data reliability.
- Created data transformation pipelines for complex analytics, resulting in 30% improved decision accuracy.

Face Mask Detection for Mask Compliance Monitoring System, University of Pune, India

- Engineered real-time mask detection system utilizing OpenCV and MobileNetV2, achieving 96% accuracy.
- Implemented Haar Cascade algorithms for facial recognition and deep learning models for mask classification.

Smart Glasses for Enhanced Driving Safety, University of Pune, India

- Developed smart glasses with Arduino Uno, GSM, GPS, and OLED for real-time navigation and alerts.
- Improved system responsiveness by 20% and achieved 98% message delivery through optimized communication.

LEADERSHIP AND ACHIVEMENT

- Winner of Gandharva Hackathon: Secured first place by developing an innovative assistive Smart Glasses.