HETAL PATEL

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EDUCATION

Master of Science in Computer Science, California State University, Fullerton **August 2022 - May 2024**

- **Relevant Courses:** Advanced Algorithms, Software Architecture, Web Back-End Engineering, Advanced Software Process

Bachelor of Engineering in Information Technology, Mumbai University, Mumbai **August 2011 - May 2015**

- **Relevant Courses**: Data Structure and Algorithms, Software Engineering, Database Technologies, Artificial Intelligence

EXPERIENCE

Senior Software Engineer, Manek Consulting, Mumbai **May 2019 - March 2021**

- Achieved a 66% reduction in load time (1 second from 3 seconds) through strategic caching and optimizations
- Automated and streamlined end-to-end demat, trading, and mutual fund account opening, eliminating paper documentation, decreasing process time by 88%, and tripling revenue
- Incorporated RESTful APIs and web services in Java to facilitate fluid software support and communication, leading to a 91% increase in front-end to backend data driven exchangeability, as evidenced by API response times
- Devised and maintained PostgreSQL database schemas, crafted revamped SQL queries to improve data processing and retrieval processes, rewarded a 55% growth in server interpretation, and monitored security for optimal deployment
- Led a team of 4 junior engineers, fostering collective discussions to resolve issues, code reviews, continuous improvement and execute best practices, directing a 20% elevation in team productivity and development process

Software Developer, Rupeeseed Technology Venture Private Limited, Mumbai **October 2016 - May 2019**

- Spearheaded expansion of time-series widget products for stock apps, enforcing comprehensive technology specifications to diminish costs by 15% and augment active competencies
- Enriched page design experience by 57% through asynchronous service request handling, partial page updates, and seamless integration of advanced JavaScript libraries and JSON for refined data representation
- Applied agile and scrum practices to develop cohesive code, improve user experience, and introduce new features with developing unit test cases and performance testing, resulting in a 30% increase in overall functionality

Research Assistant, California State University, Fullerton **September 2023 - Present**

- Utilized OpenCV, TensorFlow, and YOLOv8 to train drone models for object detection, achieving 72% accuracy validated through simulation and real-world testing
- Developed ArduPilot path planning algorithm for real-time obstacle avoidance, optimizing routes and environment mapping

Teaching Assistant, California State University, Fullerton **August 2023 - Present**

- Led engaging class discussions with 93% participation, offering hands-on problem-solving in Object-oriented programming labs in C++, leading to a 70% increase in students' independent solving of complex problems

PROJECTS

3D Single Object Tracking in Point Clouds, GitHub **February 2024 - Present**

- Leveraged CUDA, PyTorch, and GPU acceleration in Ubuntu to power deep learning architectures (like PointNet++) for efficient feature extraction from point clouds, enabling accurate and real-time 3D object tracking and motion estimation

Heart Disease Diagnosis, GitHub **October 2023 - December 2023**

- Utilizes a probabilistic approach with a Bayesian network model to predict the likelihood of heart disease occurrence and its type based on variable parameters, achieving 89% precision throughout the dataset

Airline Analysis, GitHub **March 2023 - May 2023**

- Conducted three data-driven analyses in AWS with 97% accuracy across dataset, maximizing scheduling, enhancing on-time performance, and providing valuable insights for airlines and passengers

Electric Car Traveler, GitHub **October 2022 - December 2022**

- Conceived an algorithm for weighted undirected graphs to calculate minimum stops required for recharging an electric car from source to destination, honing 63% energy consumption and travel capability

TECHNICAL SKILLS

- **Languages:** Java, Python, Ruby, C++, SQL, JavaScript, HTML/CSS, R, TypeScript, XML
- **Frameworks:** Node.js, Express.js, Django, Flask, React, Angular, Bootstrap, FastAPI, MapReduce, Spring Boot, Hibernate
- **Libraries:** jQuery, Ajax, Vue.js, log4j, Junit, Jasmine, Maven, Hadoop, Scikit-learn, NumPy, Pandas, Matplotlib
- **Database:** MySQL, PostgreSQL, MongoDB, SQLite, Cassandra, Apache HBase, Hive, Oracle
- **Tools:** Postman, Kubernetes, Git, Tomcat, Eclipse, Kafka, Docker, JIRA, AWS, EMR, EC2, S3, Spark, Azure, Jenkins