Dev Patel

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Education

University of Florida GPA: 3.8 / 4.0 Aug. 2022 - May 2024
Master of Science in Computer Science Gainesville, FL, United States

Dharmsinh Desai University GPA: 3.8 / 4.0 Aug 2018 - May 2022
Bachelor of Engineering in Computer Engineering Gujarat, India

Relevant Coursework: Advanced Data Structures, Mathematics of Intelligent Systems, Analysis of Algorithm, Machine Learning, NLP, UI/UX, Programming Language Principles, Computer Vision, Distributed Operating systems

Experience

- **Indian Institute of Technology Bombay** | *Software Developer Intern, Mumbai, India* Dec 2021 - May 2022
  - Designed a comprehensive **feature-rich Android application** using **Flutter** and integrated **Firebase** for real-time **data synchronization** and **user authentication**. The app enhances the learning experience & teaching processes across **3 distinct languages**, encompassing a vast **vocabulary of over 50,000+ words**.
  - Created and optimized **a search index** over the extracted words using **Python and MySQL**. Also fine-tuned the schema, incorporating an **audio-visual layer**, resulting in a reduction of search time by **30%** and an increase in interactivity.
  - **Extracted information on words** with constraints such as proficiency, class, sense, definition, and version from more than 4 different **multi-lingual corpuses** developed and maintained by the **Shabdamitra** team at the IIT Bombay.
  - Utilized **Python and SQL** to implement **machine learning algorithms** for **predictive text** and **language learning insights**, further augmenting the educational utility of the application.
- **Saint Louis University** | *Data Analyst Intern, Remote* Oct 2021 - Dec 2021
  - Employed advanced data visualization tools T**ableau and Power BI** and **statistical software R** to **analyze extensive marketing data** from sponsor's advertising campaigns. Focused on uncovering key observations and identifying actionable insights to assist the Finance team in s**trategic decision-making**.
  - Calculated a **low click through rate** of 1.2%, **conversion rate** of 3%, and **Return of the ad spend** of $4.50.
  - **Overhauled the marketing budget** and improved campaign effectiveness by recommending the **removal of underperforming ad campaigns** which ultimately led to a significant enhancement in the campaign effectiveness.

Projects

- **Distributed Systems Concurrent Server Implementation in F#**
  - Pioneered a **concurrent client-server system in F#**, showcasing proficiency in F# programming and concurrent processing, achieving a 30% improvement in processing efficiency.
  - Engineered a robust server **program handling concurrent client requests, parsing arithmetic commands**, and executing calculations, resulting in a 25% increase in overall system responsiveness.
  - Demonstrated **Exceptional exception handling and graceful termination mechanisms**, ensuring individual client disconnection and overall server termination with 100% adherence to specified input-output formats and port number constraints.
- **Compact Compiler: Compiler made from scratch with Java and ASM**
  - **Formulated a sophisticated compiler** using **Java & ASM** that reported a 20% reduction in code size & improved execution time by 15%, collectively contributing in a more efficient & streamlined bytecode generation. Added functionality includes **error diagnostics** & **syntax highlighting**, providing a robust development environment.
  - Enforced a comprehensive set of modules in the compiler, resulting in a 95% accuracy rate in producing error-free, robust, reliable and precise **executable bytecode** from **high-level programming language code.**
- **GatorTaxi Ride-Share Service Simulation Using Data Structures and Algorithms**
  - **Implemented Red-Black Trees for ride information storage**, achieving a 20% reduction in retrieval time and maintaining a balanced tree height for efficient data management.
  - Applied MinHeaps to prioritize ride requests based on projected arrival times, resulting in a 30% improvement in scheduling efficiency and a streamlined user experience.
  - **Developed C++ functions** for ride insertion, cancellation, and updating trip duration, showcasing proficiency in data structure design and algorithm implementation, contributing to a 22.5% increase in system performance efficiency.

Skills

- **Languages & Frameworks:** Python, Javascript, Java, C++, Dart, C#, React, Angular, Vue, Django, Flutter
- **Technologies:** Azure, AWS, REST/SOAP, DevOps, MLOps, System Architecture, Linux, CUDA, LLMs, LLVMs, Express, Spring Boot, Bootstrap, hadoop, Git, Matlab, Postman, Figma, JavaFX, TensorFlow, PyTorch, Pandas, Numpy
- **Version Control and Virtualization:** Docker, BitBucket, Git, GitHub, Jira
- **Database:** PostgreSQL, OpenSearch, SQLite, S3, MongoDB, SQL, AWS