Vishal Vardhan Adepu

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Education

Texas A&M University **August 2023 - December 2024**
Master of Science in Computer Science; GPA: 4.0/4.0 *College Station, Texas*

Indian Institute of Technology Guwahati **Assam, India**
Bachelor of Technology, Electronics and Electrical Engineering; GPA: 8.35/10.0 *July 2017 - May 2021*
Minor in Mathematics

Technical Skills

Programming Languages: C, C++, C#, Java, Python, JavaScript, Ruby, R
Technologies/Frameworks: Vaadin Flow, Apache Lucene, Spring Boot, Spring Data, SQL, Kubernetes, Docker, AWS, Electron, PyTorch, Keras, Ruby on Rails, Pandas, Scrapy, React, Scikit-Learn, Git, Heroku

Experience

Moody's **June 2024 - August 2024**
Software Engineer Intern | C# | .NET | AWS | MongoDB | Risk Models *Bellevue, Washington*

- Developed dependency health check endpoints for services built around financial risk models, creating robust APIs to monitor health status and efficiently manage AWS resources.
- Designed a MongoDB data storage service with Amazon EBS mount, facilitating efficient storage, retrieval, and management of AWS Step Functions job execution data across processes.
- Simplifying the code of service controllers, enhancing maintainability in the Risk Modeling services.

Texas A&M University **December 2023 - May 2024**
Graduate Assistant Teaching | Full stack | Java | Spring Boot | Vaadin Flow | Docker *College Station, Texas*

- Spearheaded the development of a web application addressing limitations in available platforms like Canvas, offering more granular functionality for our course's student information management and grading needs.
- Streamlined grading and student management for instructors by implementing functionalities like automated scoring rubric generation, interactive score analysis dashboards, and real-time attendance tracking.

JPMorgan Chase & Co. **July 2021 – August 2023**
Software Engineer | Full-time | Java | Python | Apache Lucene | Information Retrieval *Hyderabad, India*

- Designed and developed a high-performance ranking/filtering system capable of matching over 300k customer records against a vast 5 million watchlist entities in just one hour.
- Optimized the matching speed using caching and re-usable design, which improved the speed by 12x.
- Engineered a novel matching algorithm by modeling customer-watchlist relationships as graphs and applying Ford-Fulkerson's max flow technique, resulting in enhanced quality of the matches.
- Devised an optimized context API with intelligent caching to efficiently store and retrieve transient results, minimizing redundant computations and maximizing resource utilization.

JPMorgan Chase & Co. **June 2020 – July 2020**
Software Engineer Intern | Python | NLP | Flask | OpenCV *Bengaluru, India*

- Engineered an application using Natural Language Processing to translate Indian Sign Language to English
- Designed a Dependency Parse Tree-based traversal algorithm to convert English text to sign language.
- Created a Bi-directional LSTM model for precise classification of temporal gesture data into signs.

Projects

LFind | *Information Retrieval* | *Command Line* | *Java* | *Apache Lucene* **Jan - May 2024**

- Developed LFind, a CLI application using Apache Lucene for efficient file metadata and content searching.
- Implemented interactive mode and support for piped inputs, enhancing scripting capabilities with Bash.

P2P File Sharing Application | *Sockets* | *Networks* | *Decentralized File Sharing* | *P2P* **June - May 2020**

- Built a P2P file sharing client using P2P networking protocol to enable users to share data between peers.
- Devised an algorithm for selecting peers in a swarm, emphasizing data retrieval from the fastest nodes.
- Created a data serialization library to seamlessly convert messages to and from B-encoded format.

Relevant Coursework

Distributed Algorithms & Systems | Algorithms | Operating Systems | Reinforcement Learning | Neural Networks and Deep Learning | NLP Sequence Models | Object Oriented Design | Machine Learning