PRANITH VARMA

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EDUCATION

Missouri State University (MSU) Springfield, Missouri
Master of Science Computer Science Dec 2023
Vardhaman College of Engineering (VCE) Hyderabad, India
Bachelor of Technology (BTech)/Computer Science May 2021
VNR Vignana Jyothi Institute of Engineering & Technology (VNRVJIET) Hyderabad, India
Diploma in Civil Engineering May 2018

SKILLS

- Programming Languages: Java, Python, SQL, C, C++, Scala
- Front End Languages: HTML, CSS, Bootstrap, JavaScript, PHP, XML, Typescript, Angular, React
- Backend Technologies: Node.js, Express.js
- Operating Systems: Windows, Linux, Unix, MacOS
- Database: MySQL, PostgreSQL, MongoDB, Apache Spark SQL, Firebase
- Cloud Computing: AWS, EC2, S3, Azure
- Version control: SVN (Apache Subversion), Git, GitHub, Gitlab
- Software: Visual Studio, IntelliJ, MS Excel, MS Word, Oracle Metasolv M6, IMS, Jira, Tomcat, XAMPP, Android Studio, Databricks, Trello, Cisco connect, Zscaler
- Methodologies: Agile, Scrum, Test Driven Development
- DevOps Tools: Docker, Kubernetes, Jenkins, CI/CD pipelines
- Networking Skills: TCP/IP Networking, WAN/LAN, OSPF, Ethernet, OpenVPN, VPN, DNS, Network Protocols, Network virtualization, Remote Desktop, Wireshark, FTTH, FTTX, FDP, PON, GPON, Bash, Routers, Switches

RELEVANT EXPERIENCE

CYIENT Limited |Client: Metronet, National Grid Hyderabad, India
Software Engineer Jan 2022-July 2022

- *Enhanced Network Functionality**:*** Achieved significant optimization in network functionality and performance through effective utilization of Metasolv M6 and IMS for network virtualization.
- *Improved Connectivity:* Successfully implemented and managed Fiber to the Home (FTTH) and Fiber to the X (FTTX) networks, enhancing user connectivity and access.
- *Boosted Network Efficiency:* Increased network efficiency and reliability by implementing Terminal to PON and PON to FDP cross-connects.
- *Enabled High-Speed Internet Access:* Designed and managed a GPON-based FTTH Access Network, enabling high-speed internet access for residential users.
- *Maintained Accurate Network Records:* Ensured accurate and up-to-date network records by managing splice documents, early releases, and audits using Metasolv M6, and documenting network integration and validation tasks using MS Excel and Word.
- *Enhanced Network Performance:* Leveraged Java programming to work with network layers, significantly enhancing network performance and functionality.
- *Improved Network Security:* Enhanced network security and user experience by leveraging Cisco Connect and Zscaler for secure network access and connectivity.
- *Optimized Database Performance:* Improved query processing time from 40ms to 23ms by building complex database schemas in Django ORM.
- *Accelerated API Performance:* Improved API calling times from 15.2ms to 6.2ms by implementing HTTP REST services using FastAPI.
- *Developed Robust Web Applications:* Successfully developed web applications using Java frameworks such as Spring Boot and Hibernate.

- *Streamlined Deployment Process:* Achieved secure and efficient application delivery by configuring and setting up secure AWS EC2 instances and CI/CD pipelines.

The Sparks Foundation Remote, Singapore
Data science Intern Aug 2020-Sep 2020

- *Developed Charity Website:* Built a user-friendly charity website with payment integration, significantly enhancing online donation processing.
- *Utilized PHP and JavaScript**:*** Employed PHP, JavaScript, HTML, and CSS for web development, ensuring a seamless and responsive interface.
- *Bootstrap for Responsive Design:* Used Bootstrap to create a responsive and mobile-friendly design, improving user accessibility.
- *Integrated Payment Gateway**:*** Successfully implemented payment integration using Stripe and its API, ensuring secure and efficient payment processing.
- *Database Connectivity with MySQL:* Developed robust database connectivity using MySQL, facilitating efficient data management.
- *Lovely Framework Implementation:* Utilized the Lovely Framework to streamline development and maintain code organization.
- *API Development:* Created and integrated APIs to enhance the functionality and interoperability of the website.
- *Tomcat for Deployment:* Configured and deployed the application on Apache Tomcat for local deployment, ensuring a stable and scalable environment.
- *User Interface Design:* Designed a user-friendly and intuitive interface, enhancing the overall user experience.
- *Comprehensive Documentation:* Generated thorough documentation detailing the integration process and documented the codebase with clear instructions for future maintenance.
- *Thorough Testing and Debugging:* Conducted extensive testing and debugging to ensure smooth functionality and reliability of the payment processing system.

PROJECT EXPERIENCE

Analysis of Plane Accidents Using Deep Learning:

- Collected and preprocessed historical aircraft incident datasets.
- Developed and trained deep learning models with TensorFlow and Keras, focusing on regression layers, pattern recognition, and feature extraction.
- Optimized models through hyperparameter tuning and utilized dimensionality reduction and feature selection techniques.
- Implemented with Scala and Python, aiming to enhance aircraft safety with real-time incident identification.
- Utilized Apache SparkSQL in Databricks Scala to load and process large datasets containing plane accident information.
- Used Jupyter Notebook to load and run deep learning techniques in Python, such as TensorFlow and Keras.

Path Planning using Metaheuristics Search Algorithms:

- Solved path planning problems using Genetic Algorithms (GA), Particle Swarm Optimization (PSO), and Ant Colony Optimization (ACO).
- Conducted performance benchmarking through simulations, determining the best-performing algorithm.
- Investigated the use of meta-heuristic algorithms for robot motion planning in static environments, designing collision-free paths effectively via waypoints.
- Utilized suitable encoding for algorithms to find optimal paths from start to endpoint, incorporating random waypoints for path generation.

- Explored the use of GA, PSO, and ACO for path planning in two-dimensional static environments, ensuring free robot passage in all possible directions.
- Conducted performance benchmarking through simulations in various scenarios to analyze algorithm performance.

Text Analysis Tool:

- Developed the Open-ended Feedback Analysis System (OFAS) to analyze general trends and hidden insights from raw text data collected through surveys and feedback forms.
- Transformed raw textual information into meaningful quantitative data, enabling informed decisions and conclusions.
- Automated the discovery of trends and hidden patterns in texts, eliminating the need for manual analysis.
- Designed the software to take input texts as .txt files or manual input, pre-process input texts, perform sentiment and thematic analysis, and generate a report of text analysis.
- Implemented as a command-line tool in Python, without a GUI, allowing users to interact through a command-line terminal.

FuelUp - Android Application:

- Developed an undergraduate academic project for online fuel delivery, addressing the issue of vehicle breakdowns due to fuel insufficiency.
- Designed to allow users to order fuel online from any fuel station, providing convenience and accessibility.
- Implemented using Android Studio, XML, Java, and Firebase, with a team of three members.
- Aimed to provide users with the best quality fuel and on-time delivery, saving time and avoiding difficult situations.
- Charged a reasonable fee for delivery, ensuring affordability for users.

CP-ABE Scheme for Encrypted Cloud:

- Developed a scheme for protecting encrypted cloud storage from Economic Denial of Sustainability (EDoS) attacks, ensuring transparency in resource utilization.
- Implemented Ciphertext-Policy Attribute-Based Encryption (CP-ABE) schemes in a black-box setting, adhering to CP-arbitrary ABE access policy.
- Developed a web server application for secured cloud storage, aiming to eliminate cyber-attacks such as Distributed Denial of Service (DDoS).
- Conducted a performance and security assessment, providing two protocols for different circumstances.
- Completed as an undergraduate final semester academic project in a team of three members, using Java, Tomcat, and MySQL.

SELECT PUBLICATIONS / PRESENTATIONS

Pranith Varma Appani, Santosh Shrestha, Praveen Reddy Kota, Alaa Sheta. **Optimizing Robot Path Planning in 2D StaticEnvironments using GA, PSO and ACO Search Algorithms**. International Journal of Computer Applications. 186, 7 (Feb 2024), 1-10. DOI=10.5120/ijca2024923402

Certifications

- CCNA: Introduction to Networks - Cisco.
- Python Data Structures: Coursera WBME6KHNB2VB.
- Programming in C#: A comprehensive approach to C# Fundamentals - Coursera ZZVFURKDBN47
- Coursera: AI For Everyone- Deeplearning.AI
- COVID19 Data Analysis Using Python- Coursera 3DBL6EP3VAQH