Gauthami Aithal

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TECHNICAL SKILLS

Languages: Python, SQL, R, C#, C++
Tools: Git, VS Code, Jenkins, Gazebo/Rviz, ROS, Bitbucket, DXL for DOORS, Tableau, Power BI, Excel, AWS, Airflow, Spark, Kafka
Libraries: Pandas, NumPy, Scikit-learn, PyTorch, Keras, OpenCV, Matplotlib, Seaborn

EDUCATION

Master of Science in Data Science   May 2023
University of Colorado Boulder | GPA: 3.97/4
Machine Learning, Applied Statistics, Neural Networks, NLP, Data Mining
Bachelor of Technology in Electronics & Communication   May 2018
N.M.A.M Institute of Technology | GPA : 4/4
Probability, Data Structures & Algorithms, Linux, DBMS, Embedded Systems

WORK EXPERIENCE

Trilogy Networks, Data Analyst | Boulder, US   June 2023 – Present
- Focusing on enabling Ag tech solutions, specifically micro-climate prediction using Deep learning to address the needs of growers.
- Integrating revolutionary Farmgrid platform(5G, edge computing & cloud) as an Azure marketplace offering
- Technologies: Python, SQL, Azure, GitHub, Machine Learning libraries, Statistical libraries

University of Colorado (Orbit Logic, NASA), Graduate Research Assistant | Boulder, US   June 2022 – August 2022
- Conducted resource trade-off analysis to minimize communication costs and maximize probability of successfully reaching the goal location. Optimized containerized motion planning solutions and hardware implementations for the Autonomous Planning System onboard the rover
- Technologies/hardware: Python, Robot Operating System, Gazebo, Docker, GitHub, Clearpath robotics Jackal(Rover)

Bosch, Software Engineer | Bangalore, India   July 2018 – July 2021
- **Database design, Data pipeline creation, Dashboard & Reporting**: Architected a data ingestion pipeline for batch processing to monitor and manage daily project progress and team productivity by efficiently combining the 4 stages including data extraction, preprocessing, data/statistical analysis & reporting
- **Performance forecasting, Ad-hoc Analytics & Visualization**: Developed internal tools to analyze, transform, explode huge datasets using Python, SQL , Pyspark for identifying trends & seasonality while being part of a cross functional team of 80 members in an Agile setup. Complemented this with customized easily digestible, interactive visualizations to track KPIs
- **Business process automation**: Collaborated with an associate to build an ETL(Extract-Transform-Load) tool chain to automate the system testing & requirement capturing process, saving 3+ man-hours per day
- **Growth & Strategy**: Conducted user research to understand pain points of using Hardware in loop systems (HILs) and Automation desk used by 80-person Test Engineering team, enabled feature prioritization & adoption of optimized resource utilization strategies, leading to 32% uptick in user satisfaction
- Technologies: Python, SQL, C#, Jenkins, Tableau, Excel, Selenium, Pyspark, ML Libraries

Bosch, Project Intern | Bangalore, India   February 2018 – June 2018
- Delivered a proof-of-concept project on autonomous docking of a 4 wheeled robot using an off the shelf webcam. Accomplished feature extraction, pattern recognition and path planning by utilizing live video feed and resolving camera calibration and robot kinematics
- Technologies/hardware: Python, Robot Operating System, Gazebo, GitHub, Bosch Lawnmower

PROJECTS

- **Real-time Log Analytics(Python, Apache Kafka, Glue, Athena, SQL, Airflow)**
  Combined Kafka's real-time data streaming capabilities with AWS services to build a scalable, reliable, and efficient real-time streaming log analytics pipeline to uncover valuable insights from streaming data as it's generated
- **Robust Captcha Generation using GAN(Python, Keras, OpenCV, Matplotlib)**
  Used deep learning techniques to explore vulnerabilities of CAPTCHAs and built a CNN model to solve CAPTCHAs with 90% accuracy. Leveraged GANs to produce new CAPTCHAs from random noise, used Street View House Numbers dataset for training
- **Insights from YouTube comments (Amazon S3, AWS IAM, QuickSight, Glue, Lambda, Athena)**
  Developed a data pipeline to effectively manage structured (CSVs containing video comments) and unstructured data (JSON files specific to different regions), with a simplified data ingestion and visualization workflow. Leveraged AWS services to facilitate seamless scalability of the pipeline
- **From Pixels to Phrases- Image Captioning(Python, GloVe, VGG-16 CNN, LSTM, Scikit-learn)**
  Developed an Encoder- Decoder model, CNN(Image model) & RNN(Language Model) to identify the objects present in an image and comprehending the relationships between them using Flickr8k dataset