Udit Ghosh

Charlotte, NC

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TECHNICAL SKILLS

- **Programming languages**: Java, Python, C++, C, HTML, CSS, Javascipt
- **Technology/frameworks:** Scikit-learn, Tensorflow, Numpy, Pandas, Matplotlib, Flask, Django, PySpark, AWS, Docker, Terraform, Jenkins, Kubernetes, EC2, ALB, CodeBuild, CodeDeploy, S3, VPC, Route53, ECR, ECS, CloudWatch
- **Database Systems:** MongoDB, MySQL, SQLite3
- **Software Tools:** PyCharm, VSCode, Github, Tableau, Postman, MS Excel, Jira, DataDog, Git, Bash, UNIX

EXPERIENCE

DevOps Engineering Intern, Visual Lease LLC **May 2022 - April 2023**

- Worked in Agile-driven environment to monitor application performance issues, identify bugs, and understand how specific application components behave in production and test environments
- Designed and implemented a highly available Serverless Jenkins environment on AWS Fargate by utilizing Terraform to provision critical resources such as Application Load Balancer, VPC, and ECS. Reduced the overall provisioning time by 70%, ensuring standardization and minimize the chance of human error
- Created Jenkins pipeline that utilizes CodeBuild integration to automate build jobs for generating Docker images and pushing them to Amazon ECR, ensuring efficient and consistent builds of containerized applications
- Wrote and maintained build spec files within CodeBuild to streamline container creation and optimize builds
- Implemented CloudWatch Trails to store CodeBuild logs, enabling real-time visibility into the build process
- Configured Jenkins to send job console logs to Datadog for centralizing logging, and improved visibility
- Developed a continuous monitoring solution with Datadog to identify problematic resources that were negatively impacting uptimes. Reduced time for manual investigation by 30% through generating automated alerts for the Ops team.
- Leveraged understanding in key DevOps practices including **CI/CD**, **Jenkins**, **Terraform**, **AWS**, **Docker**, **Bash,** and **Git**

Research Assistant **Aug. 2020 – June 2021**

- Assisted Professor in advanced research on Dominant Association Rule Mining, contributing to data-driven insights and pattern discovery through conducting comprehensive analysis, comparing performance and efficiency of 7 algorithms against similar solutions on 6 real-world datasets from SPMF
- Developed and optimized Python-based code for proposed algorithms, resulting in a 40% reduction in processing time, enhancing overall computational efficiency
- Demonstrated expertise in **Data Mining** and **Python**, to drive data-driven decision-making and achieve research objectives

PROJECTS

AWS-Powered Real Estate Analysis **Sept. 2022**

- Developed machine learning framework for predicting housing prices in California with 81% accuracy using XGBoost-algorithm and AWS tools
- Created data pipeline in AWS for ingesting, storing, processing, and performing analytics on housing data using Sagemaker, S3, Glue, and EC2 instances
- Developed interactive dashboard in Tableau for visualizing data and facilitating informed business decisions
- Leveraged understanding of **AWS services** and **predictive modelling techniques**

Pantry Connect App **Jan. 2022 - April 2022**

- Designed and implemented an end-to-end web application for locating pantries and creating appointments based on GPS coordinates
- Utilized Google Dialogflow API to integrate chatbot functionality into the application, and developed custom webhooks using flask to handle requests and validate results
- Ensured security of the application by implementing authentication services for every user and storing hashed credentials in a NoSQL database
- Leveraged understanding in **Python**, **Flask, Google Dialogflow, REST API** and **MongoDB**

YouTube Channel Analyzer **Dec. 2021**

- Designed a fully functional web application that allows users to understand and analyse the YouTube channels statistics and trends through visualizations, and identify which videos gain more user interactions.
- Invoked YouTube REST API to obtain data, and performed pre-processing to ensure valid input data
- Developed an intuitive and user-friendly interface using Streamlit, and performed deployment using Heroku
- Leveraged understanding in **Python**, **HTML, CSS,** and **REST API**

Real Time Face Mask Detection **Sept. 2021 - Nov. 2021**

- Built a Deep Learning Model based on YOLOv5 architecture to detect whether a mask is worn correctly in real-time from video-feed with 90% accuracy
- Utilized Roboflow API to automatically load dataset and perform data augmentation
- Leveraged knowledge in **Convolutional Neural Network** and **Object detection**

EDUCATION

University of North Carolina - Charlotte, NC

Master of Science in Computer Science (GPA: 3.8/4) **May 2023**

Modules - Algorithm & Data Structures, Computer Vision, Parallel Computing, Software System Design & Implementation, Knowledge Discovery in Databases, Big Data Analytics, Machine Learning, Modern Data Science Systems

Neotia Institute of Technology Management and Science, Kolkata, India

Bachelor Of Technology, Computer Science and Engineering (GPA: 3.7/4) **2016 - 2020**

Modules – Object Oriented Programming, Operating System, Computer Networks, Artificial Intelligence, Computer Architecture