Barun Das

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Education

GEORGIA INSTITUTE OF TECHNOLOGY *Aug 2021 – May 2023*
MS in Computer Science GPA: 4.0/4.0
Grad. Teaching Assistant for *Data and Visual Analytics* course consisting of ~1200 students

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR *July 2016 – June 2020*
B.Tech. in Metallurgical & Materials Engineering / Computer Science & Engineering (minor) GPA: 8.97/10 (rank 2nd)

Skills

Proficient Python, Java, C/C++, Docker, Kubernetes, Prometheus, Grafana, Alertmanager, Selenium
Familiar Javascript, Spark, SQL, Figma, Jenkins, Tableau, Hadoop, Artemis, Kafka, AWS, Google Cloud

Experience

GENERAL ELECTRIC *Hyderabad, India*
Software Engineer | Java, Docker, Kubernetes, Jenkins *August 2020 – August 2021*

- Helped develop an in-house Kubernetes platform for creating microservices – used by over 150 teams globally
- Designed and developed REST-based microservices in Spring Boot to add functionality to the platform (e.g., testing, storing preferences, etc.) – dockerized, wrote Jenkinsfiles & deployed the pods on the Kubernetes platform
- Created and migrated Helm charts and PDIs to Artifactory for automating deployment and setup of the platform
- Visualized operation statistics and monitored resource usage for over 15 services using Grafana and Prometheus
- Configured custom alerts using Alertmanager so that stakeholders were notified when thresholds were exceeded
- Conducted performance tests on messaging queues (*Artemis, Kafka*) using *Apache Camel* to ensure SLAs were met
- Documented dashboard and cluster configurations in Markdown and Asciidoc - used for onboarding new teams

GENERAL ELECTRIC *Hyderabad, India*
Digital Technology Intern | Javascript, Selenium, Protractor, Cucumber *May 2019 – July 2019*

- Performed frontend development for a drag-and-drop IoT dashboard using JavaScript, Polymer Project and Vaadin
- Developed an automated, behavior-driven, end-to-end testing suite using Protractor-Cucumber and Selenium

Projects | Website: barunkgp.github.io

BLOCKBOARD | Python, Javascript (D3.js, Swiper.js) HTML, CSS, Azure *Oct 2021 – Dec 2021*

- Collaborated with 5 teammates to develop an interactive dashboard that aggregated financial data, on-chain metrics and Twitter sentiment for Bitcoin to display novel visualizations that were more intuitive and holistic
- Developed a Python web-app that used REST APIs to gather data for over 2000 BTC blocks and 3 million tweets
- Used Vader to perform sentiment analysis of the tweets to obtain positive, negative, neutral & complex sentiments
- Analyzed and displayed correlations between price & different metrics to aid in developing better trading strategies

FEDERATED LEARNING BASED RECOMMENDATION SYSTEM | Pytorch, scikit-learn *Oct 2021 – Dec 2021*

- Collaborated with 4 teammates to develop a secure federated learning model to recommend movies to users
- Trained a neural network regression model over the *MovieLens* dataset (using BERT embeddings) for edge nodes
- Sent encrypted updated gradients to a central model which updated itself and recommended movies for the users

AGEING PROGNOSTICS FOR ENGINEERING COMPONENTS USING ML | Python *July 2019 – May 2020*

- Simulated the error response of a 2nd-order system in MATLAB using features: rise time, settling time and overshoot
- Developed an SVM-based model which computed the minimum set of features among independent parameters of the system and used the error in their output responses to define an error threshold and identify ageing failure
- Built a similarity-based prognostics model that used regression analysis over 218 engine timeseries data with 26 sensor readings and 3 operational settings each to predict the remaining useful life of components