Aditya Deepak Bhat

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MS CS Graduate Student at ASU with 2+ years of Software Development experience

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Education

Master of Science in Computer Science — Dec 2023 (Expected)
Arizona State University, Arizona, US. — *GPA: 4.00/4.00*
Courses: Cloud Computing, Semantic Web Mining, Data Intensive Systems for Machine Learning.

Bachelor of Technology in Computer Science and Engineering — Aug 2019
PES University, Bangalore, India - Specialization in Data Science. — *GPA: 8.8/10*

Skills Summary

Programming: Python, Javascript, C/C++
Full Stack: ReactJS, NodeJS, Express, Flask, Django, MongoDB, PostgreSQL, MySQL
DS/ML: numpy, pandas, matplotlib, Seaborn, scikit-learn, Keras, TensorFlow, PyTorch, spaCy, OpenCV
Other: Git, AWS (EC2, S3, SQS, Lambda, API Gateway, DynamoDB), Docker, pytest
Certifications: DeepLearning.AI TensorFlow Developer, Deep Learning Specialization by deeplearning.ai on Coursera.

Experience

Software Engineer - Hewlett Packard Enterprise R&D (Bangalore, IND) — July 2019 - Dec 2021

- Designed an end-to-end web application using **MongoDB, Express, ReactJS, and NodeJS** to assist in triage and reporting which reduced the manual effort of the triage team by 50%.
- Implemented boot characterization, memory profiling and visualization scripts for Aruba switches using **Python, Flask**, and **ReactJS**, which resulted in early detection of critical regression issues in the switch builds.
- Improved the resource utilization of 8000+ networking devices in the lab by 20% by developing a reservation tool with features like remote auth (LDAP) and network auto-discovery.

R&D Intern - Hewlett Packard Enterprise R&D (Bangalore, IND) — Jan 2019 - July 2019

- Decreased the ARP scale characterization test time by 90% by creating a data analysis library using **(numpy, pandas, matplotlib)** to help track and visualize arp learning rates at various scales based on automated tests.
- Implemented libraries in **Python** for automation of switching protocols such as ARP, OSPF, etc., and traffic generation APIs for IXIA which increased flexibility to perform stressed network testing.

Research Intern - Center for Cloud Computing and Big Data (PESU, IND) — Sept 2017 –Jan 2019

- Involved end-to-end i.e., literature survey, data collection, analysis, feature engineering, modeling and deployment for *Kannada Kali* - a Cloud based Speech Recognition mobile application for the language Kannada.
- Trained deep learning models using acoustic features like MFCCs and spectrograms to rate word pronunciation and achieved an accuracy and F1-Score of $\approx$ 95%. Used Self-Organizing Maps to detect mispronunciations.

Machine Learning Intern - Pattern Effects Labs (Bangalore, IND) — May 2018 - Aug 2018

- Identified and visualized the most important indicators for stock direction prediction by conducting experiments on tree based models (Decision Trees, Random Forest, XGBoost) using technical indicators on the NIFTY Index.
- Constructed an objective function with certain constraints on buy/sell actions and created an ensemble of learners which led to $\approx$ 50% reduction of trading costs while achieving a micro-average F1-Score of $\approx$ 65%.
- Identified important parameters such as best train/inference window size, best features and hyper-parameters for ML/DL models by performing training, hyper-parameter tuning, and back-testing on historical data.

Projects

AWS Face Recognition as a Service (IaaS)

- Designed a face recognition REST Service based on a deep learning model (CNN), **AWS services (S3, SQS, EC2)** and Java Spring Boot which can scale out and in based on user demand and handle multiple concurrent requests.

LegoNet (Final Year Undergrad Dissertation) — Link

- Proposed an NLP system to classify and summarize Indian legal judgments using sentence embedding, Capsule Networks and Unsupervised Text Summarization. Achieved a ROUGE-l score of $\approx$0.65 and an F1-score of $\approx$0.7.

Publications

- LegoNet - Classification and Extractive Summarization of Indian legal judgments with Capsule Networks and Sentence Embeddings. Link — 2020
- Pronunciation Training on Isolated Kannada Words Using "Kannada Kali" - A Cloud Based Smart Phone Application. Link — 2018

Honors and Awards

- Received the CNR Rao Merit Scholarship Award - Awarded to top 20% students in the batch at PESU. — 2018
- Awarded the Best Paper/POC Award for POC titled *"Kannada Kali – Learning Languages Made Easy"* among 100+ teams at the IEEE International Conference on Cloud Computing for Emerging Markets. — 2018