ADITYA DEEPAK BHAT

(+91) 9606604669 BANGALORE, IND

Software Engineer with 2+ years of experience in area of Full Stack Development and Machine Learning

adityadb24@gmail.com adityabhat24 aditya-bhat aditya-bhat.github.io

Experience

Software Engineer - Hewlett Packard Enterprise R&D

July 2019 – Present Bangalore, IND

- Analysed test execution data to identify bottlenecks which led to a 25% increase in sanity and regression test coverage.
- Designed and developed a MERN web app to assist in triage and reporting which reduced the manual effort of the triage team by 50%.
- Worked on case studies on Network Classification for inferring network behavior using gradient boosted trees on the NIMS dataset.
- Worked in a team of 3 to build a networking daemon health monitor to help baseline and analyse behaviour of L3 protocols in Aruba Switch builds.
- Helped develop a lab reservation tool to help manage 8000+ networking devices. Features include - remote authentication with LDAP/ SSO, Network Auto-Discovery using REST/SNMP, Utilization Statistics, etc.

R & D Intern - Hewlett Packard Enterprise R&D

Jan 2019 – July 2019 Bangalore, IND

- Developed a library to help with data analysis and reporting of ARP Scale Characterization, eliminating the manual effort in generating it.
- Developed libraries in Python for automation of Switching Protocols such as ARP, OSPF, VRRP, etc. and traffic generation APIs for IXIA.

Machine Learning Intern - Pattern Effects Labs

May 2018 – Aug 2018 Bangalore, IND

- Explored feature engineering of technical indicators and came up with a suitable objective function to help predict buy/sell actions on the NIFTY Index under certain constraints.
- Training, backtesting, hyper-parameter tuning of Machine/Deep Learning classification models like ANN, LSTM, SVM, Random Forest, XGBoost, and KNN.

Research Intern - Center for Cloud Computing and Big Data

Sept 2017 – Dec 2019 PES University, Bangalore, IND

- Project *Kannada Kali* - Speech Recognition for the language Kannada.
- Training and deployment of deep learning architectures to rate word pronunciation using acoustic features like MFCCs and spectrograms.
- Used self-similarity matrix on spectral features for syllable segmentation, and Self-Organizing Maps for mispronunciation detection.

Research Assistant - Center for Pattern Recognition and Machine Intel.

Sept 2017 – Dec 2019 PES University, Bangalore, IND

- Explored Image Classification using SVM, Random Forests, Gradient Boosting, and CNN architectures such as ResNet, Inception, etc.

Achievements

CNR Rao Merit Scholarship Award (2018)
Awarded to top 20% students in the batch at PESU. Received distinction award in all semesters of undergraduate studies.

Best Paper/POC Award - 2018 IEEE CCEM
POC titled *"Kannada Kali – Learning Languages Made Easy"*, IEEE Cloud Computing for Emerging Markets.

Education

Bachelor of Technology in Computer Science (Specialization in Data Science)

PES University, GPA: 8.8/10

Aug 2015 – Aug 2019 Bangalore, IND

- Relevant Courses - Data Structures, Design and Analysis of Algorithms, Data Science, Machine Learning, Big Data, Data Analytics, Natural Language Processing, Social Network Analytics

Skills

- **Programming Languages**: C/C++, Python, Javascript
- **Databases:** MongoDB, PostgreSQL, MySQL
- **DS/ML**: numpy, pandas, scikit-learn, matplotlib, Keras, TensorFlow, PyTorch, spaCy, Spark, OpenCV
- **Web Tech**: ReactJS, NodeJS, Express, Flask
- **Other**: Git, AWS, Docker, pytest, JIRA.

Technical Certifications

- Certifications by deeplearning.ai on Coursera:
  - **Natural Language Processing Specialization** Link
  - **DeepLearning.AI TensorFlow Developer** Link
  - **Deep Learning Specialization** Link

Projects

Modular Deep Neural Net from scratch

- Keras style modular implementation of a DNN with layers for Dense, Reshape, Activations, optimizers like SGD, Adam, etc. and loss func-tions like MSE, and cross entropy.

Speech Transcription

- End-to-End ASR Pipeline to transcribe speech to text using CNNs and variants of RNNs trained on acoustic features like MFCCs and spectrograms.

Machine Translation

- End-to-End machine translation pipeline using recurrent neural network architectures.

LegoNet (B.Tech Final Year Dissertation) Link

- An NLP system to classify and summarize Indian Legal Judgments using Sentence embeddings, Capsule Networks and Unsupervised Text Summarization.

Publications

- LegoNet - Classification and Extractive Summarization of Indian legal judgments with Capsule Networks and Sentence Embeddings. (2020)
- Kannada Kali: A Smartphone Application for Evaluating Spoken Kannada Words and Detecting Mispronunciations Using Self Organizing Maps. (2018)
- Pronunciation Training on Isolated Kannada Words Using "Kannada Kali" - A Cloud Based Smart Phone Application. (2018)