Bharani Ujjaini Kempaiah

buk@andrew.cmu.edu ♦ (412) 805-9987 ♦ www.linkedin.com/in/bharani-ujjaini-kempaiah

EDUCATION

Carnegie Mellon University – School of Computer Science Pittsburgh, PA
Master of Computational Data Science | QPA: 4.02/4.33 December 2022
Coursework: Introduction to Machine Learning, Natural Language Processing, Cloud Computing

PES University Bangalore, India
Bachelor of Technology in Computer Science & Engineering | GPA: 9.83/10 May 2021

SKILLS

Programming Languages: Python, C, Java, R, SQL, Scala
Frameworks and Tools: TensorFlow, Keras, NLTK, spaCy, Spark, Kafka, Samza, Docker, Kubernetes, Hadoop
Cloud Platforms: AWS, Microsoft Azure, GCP
Databases: MySQL, HBase, MongoDB, Neo4j

EXPERIENCE

AppDynamics, Cisco Systems (India) Private Limited Bangalore, India | Remote
Technical Undergraduate Intern January – May 2021

- Developed Component Tests for OpenTelemetry supported agent using JUnit
- Created a library to dynamically alter agent configurations. Written in Java, it uses SnakeYAML to construct custom Java objects and is currently being used by the OpenTelemetry team to test future builds of agent
- Collaborated closely with software development team to identify testing requirements and aided in resolving bugs during development

Centre for Cloud Computing and Big Data, PES University Bangalore, India
Research Intern June 2019 – December 2020

- Examined DeathStarBench and TeaStore microservices to identify performance bottlenecks responsible for reduced efficiency of microservices based applications
- Monitored utilization of system resources and investigated performance sensitivity of operating system parameters using Docker Stats, perf, mpStat and TShark
- Formulated a placement algorithm to map containers of a microservice to cores of server hardware and devised a mechanism that coalesces services on commonly called paths into a single container, achieving up to 26% improvement in latency and 29.5% in throughput
- Published 2 papers at JSSPP 2021 and CCEM 2020

PROJECTS

Machine Learning on the Cloud Carnegie Mellon University | August 2021

- Trained and deployed a machine learning model (XGBoost) on the Google AI Platform to predict cab fares in NYC and performed hyperparameter tuning using HyperTune to improve the accuracy of the model
- Processed ride requests in the form of audio and images using a pipeline of cloud ML APIs such as Cloud Text-to-Speech, Cloud Speech-to-Text, Cloud NLP, Directions and AutoML Vision offered by GCP
- Deployed an end-to-end solution on Google App Engine to predict the cab fare by combining the input pipeline and the trained model

Question Answering Carnegie Mellon University | August 2021

- Collaborated with a team of 3 to build a rule-based Question Answering system for Wikipedia articles
- Developed a hybrid answer generation pipeline consisting of question type identification, top candidate sentences extraction and syntactic rule-based answer formation using dependency parsing and POS tagging
- Performed question to declarative sentence conversion, coreference resolution, sentence vector similarity, named-entity recognition and lexical analysis to enhance fluency and conciseness of generated answers

Neural Machine Translation (NMT) from English to Hindi PES University | May 2020

- Employed supervised Encoder-Decoder architecture facilitated by an enhanced version of Bahdanau's attention mechanism, Word2Vec and Vecmap
- Final model attained a BLEU score of 35