Madhusudhan Aithal Mahabhaleshwara

Boulder, CO

Email : madhuaithal@colorado.edu
Mobile : 7204218511

EDUCATION

University of Colorado Boulder — Boulder, CO
Master of Science in Computer Science; CGPA: 4/4 — *Aug 2019 – May 2021*

R V College of Engineering — Bangalore, India
Bachelor of Engineering in Computer Science and Engineering; CGPA: 9.45/10.0 — *Aug 2013 – May 2017*

RELEVANT COURSEWORK

- **University of Colorado Boulder**: Design and Analysis of Algorithms, Machine Learning, Neural Networks and Deep Learning, Object-oriented Analysis and Design
- **R V College of Engineering**: Data Structures, Algorithms, Introduction to Machine Learning, Engineering Maths, Linear Algebra, Data Warehousing and Mining, Database Management System, Software Engineering

TECHNICAL SKILLS

Java, Python, C++, JavaScript, C, TypeScript, HTML, CSS, MySQL, Node.js, Angular, Spring Boot, Flask, Elastic stack (ELK), Kubernetes, Docker, Google Cloud Platform, REST, gRPC, RabbitMQ, Apache Kafka, Elasticsearch, Postgresql, Neo4J, MongoDB, Apache Cassandra, Electron.js, Keycloak, jQuery, D3.js, Shell scripting.

EXPERIENCE

Aruba Networks — Santa Clara, CA
Software engineer intern — *May 2020 - Present*

- **Distributed logging**:
  - Worked on the design and development of distributed logging for the cloud platform of Aruba's switching solution.
  - Developed the pipeline and a python microservice for collecting and processing logs. Deployed and maintained all these components as Docker containers with Kubernetes.
  - Developed dashboards (Kibana) to display logs and provide insightful visualizations.

Infosys — Bangalore, India
Specialist Programmer (Expert Track) — *July 2017 - July 2019*

- **Natural language to CQL**: Enhanced a Python module to translate a natural language query into cypher query language (Neo4J), using Rasa. Developed a microservice in Python to serve this module.
- **Performance management system**: Designed and developed a visual analytics application for organizational team performance management, currently being used by business leaders of Infosys. (Node.js, Mongodb, D3.js) (Published in ACM IUI 2018. *link*)
- **Telemetry library**: Developed an Angular library based on the Sunbird telemetry specification (*link*), for capturing telemetry data in web applications. The library was being used by more than 10 applications of Infosys.
- **Employee experience application**: Developed and maintained complex coexisting systems over a cloud infrastructure with Docker Swarm, by containerizing individual applications and tools. Developed a system for docker container and host monitoring using Prometheus and Grafana.

Infosys — Bangalore, India
Intern (Expert Track) — *Jan 2017 - Jun 2017*

- **Key performers identification**: Analyzed key performers and connectivity structure across teams using community detection and network science metrics. Developed a Java service and UI (JavaScript) to visualize the results.
- **Knowledge graph**: Modeled and developed a knowledge graph in Neo4J for an internal Question-Answering platform at Infosys. Developed a search microservice in Java for this platform.

Mathologic Technologies — Bangalore, India
Intern — *Jun 2015 - July 2015*

- **CrewLogic**: CrewLogic is a decision support system (DSS) to make optimized crew links for scheduled trains. Developed and implemented heuristics in Java in developing this DSS.

Academic Projects

- **Political bias translation (Currently working)**: Working on style transfer of news headlines. Identify whether a news headline is more inclined towards Left ideology or Right ideology, and transfer the headline from Left to Right and vice versa.
- **Clipboard synchronization app (*source code*)**: Developed a solution for synchronizing the clipboard data across multiple devices of a user. When users copy a text in one of their devices, it will be available in the clipboard of other devices. (Node.js, MongoDb, Electron.js, Keycloak, GCP, Android)
- **Prevalence of negation in negative reviews (*source code*)**: Performed lexical analysis on negative and positive reviews of various datasets and found that negative reviews have more negations than positive reviews. Analyzed its implications on downstream NLP tasks such as sentiment analysis, style transfer in text.
- **Tweet translation (*source code*)**: Implemented Cross-alignment style transfer techniques for twitter data to translate an input tweet to a better worded tweet with the same content.
- **Event sequence prediction (*source code*)**: Implemented an LSTM based model for event sequence prediction on Twitter and Hawkes data. Analyzed its performance (NLL Loss) in comparison with the Neural Hawkes model.
- **non-normal RNN (*source code*)**: Performed hyperparameter explorations and ablation studies of nnRNNs. Implemented the Adding task for measuring the performance of nnRNNs against other RNN architectures. (Python, PyTorch)

Certifications

- Deep Learning Specialization by Coursera (deeplearning.ai), August 2018 (***link***).

Publications

- Gopalakrishnan, Gopakumar, **Aithal, Madhusudhan M.**, Pasala, Anjaneyulu (2018). Visual Analytics of Organizational Performance Network. Proceedings of the 23rd International Conference on Intelligent User Interfaces Companion.(***link***)