

Madhusudhan Aithal Mahabhaleshwara

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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*

TECHNICAL SKILLS

- **Language:** Java, Python, Javascript, C++
- **Libraries:** PyTorch, Numpy, Sklearn, Rasa, Spacy, NLTK, Pandas, Matplotlib, Networkx, jQuery, D3.js, Electron.js
- **Frameworks/Tools:** Node.js, Express.js, Angular, Spring Boot, Flask, Docker, Nginx
- **Database:** MySQL, Neo4J, MongoDB, Apache Cassandra

EXPERIENCE

- **Infosys** Bangalore, India
Specialist Programmer (Expert Track) *July 2017 - July 2019*
 - **Natural language to CQL:** Enhanced the python module to convert the natural language query into cypher query language (Neo4J) using the Rasa framework and Spacy library. This was deployed as a flask microservice.
 - **Organizational team performance management system:** Designed and developed an end-to-end visual analytics application for organizational team performance management, currently being used by business leaders of Infosys. Developed microservices using Node.JS and MongoDB, along with visualization based user interface using JavaScript and D3.js.
 - **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:** Worked on DevOps automation for an employee experience application in Infosys. Used Shell scripting, Docker and Docker Swarm for the deployment of applications. Worked on docker container monitoring and host monitoring using Prometheus.
- **Infosys** Bangalore, India
Intern (Expert Track) *Jan 2017 - Jun 2017*
 - **Key performers identification:** Worked on the analysis of key performers across teams using network science properties such as centrality indices. Developed a visualization application to visualize these results using D3.js.
 - **Knowledge graph:** Modeled and developed a knowledge graph in Neo4J used for developing an internal question and answering site for technical topics at Infosys.
 - **Community detection:** Worked on the community detection of organizational data of Infosys, to analyze the connectivity structure between different teams in the organization. Developed an application to intuitively visualize this group connectivity structure using D3.js.
- **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

- **non-normal RNN ([link](#)):** Performed hyperparameter explorations and ablation studies of nnRNNs for various tasks that require the model to learn long-term dependencies across timescales. Implemented the Adding task for measuring the performance of nnRNNs against other RNN architectures. (Python, PyTorch)
- **Sentiment Analysis ([link](#)):** Developed a chat application that could predict the sentiment of messages. Used pairwise SVM model with the RBF kernel for the classification of text into positive, negative or neutral sentiments with a test accuracy of 74%. (JavaScript, Node.js, Sklearn)
- **Parallelizing AES encryption and decryption algorithm using CUDA :** Worked on parallelizing the standard 128-bit AES algorithm using CUDA on GPU and compared the results with its CPU implementation. Exponentially reduced the time required for encryption and decryption of data using CUDA. Publication link [here](#)

AWARDS

STG Makeathon (Infosys), Mar 2019

Winners ([link](#))

STG Makeathon (Infosys), Sept 2018

First Runners up ([link](#))

"The Buggers" Coding Competition, 2015

First Runners up

Best Project Award, 2015

Winners ([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](#))
- M. R., Anala, Aithal M., Madhusudhan, D. C., Jeevan, K. R., Kartik (2016). Comparative Study of Computationally Intensive Algorithms on CPU and GPU. International Journal of Applied Engineering Research, 11, 2996–2999. ([link](#))