

Akshay Hebbar

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Education

Syracuse University

Syracuse, NY

Master of Science in Computer Science

August 2021 - May 2023

• **Coursework:** Algorithms, Operating Systems, AI, ML, NLP, Data Science, Data Mining, Reinforcement Learning

Visvesvaraya Technological University

Bangalore, India

Bachelor of Engineering in Computer Science and Engineering

August 2012 - May 2016

• **Coursework:** DBMS, Algorithms, Computer Graphics, Computer Networks, Linux, Discrete Math, C++, Java

Skills

Technologies: **Python, Java, MySQL**, Spring Boot, Microservices, C++

Tools and libraries: Amazon Web Services (AWS), Scikit-learn, **Keras**, TensorFlow, Jupyter, **Numpy, Pandas**, Docker, Kafka, Linux, Git, MongoDB, Jenkins, JSON

Professional Experience

TruWeather Solutions, New York

Jul 2022 – Present

Data Scientist

Python, TensorFlow, Keras, EDA, AWS, Lambda, CFD

- Designed solution architecture and deployed **LSTM** model to **AWS** and exposed a **REST API** via AWS Lambda, enabling real-time wind data predictions with an average response time of 5 seconds while achieving an accuracy of 93%.
- Developed **Python scripts** to analyze and preprocess OpenStreetMap 3D data for use in CFD simulations, resulting in better accuracy and simulation time.
- Conducted **CFD** wind flow simulations with OpenFOAM on **HPC** instances using SLURM commands and analyzed the results to identify key factors impacting wind patterns, resulting in a 25% reduction in error compared to previous simulations.

DiemLife, New York

Feb 2022 – Jul 2022

Software Engineering Intern

Java, MySQL, Spring Boot, AWS, Docker, Google Cloud

- Created **SQL schema** to store and map existing users to their health data.
- Developed and deployed a **microservice** on an **AWS EC2** docker instance, enabling the retrieval of user health details from Google Fit. Created REST APIs for seamless access from the frontend.

Investnet Yodlee, Bangalore

Jul 2016 – May 2021

Software Engineering – R&D Team.

Java, Python, Spring Boot, SQL, MongoDB, Kafka, Agile

- Actively contributed to designing and developing a microservice architecture using Java, Spring Boot, JPA/JDBC and **MongoDB** (NoSQL) in an **Agile** environment.
- Analyzed banking and investment data to develop techniques for handling and maintaining data quality
- Integrated data into Splunk and built data visualizations using plotly and matplotlib.
- Led the team in creating transaction type prediction application in **Python** with K-means **clustering** using Weka and pandas packages as part of hackathon.
- Designed a load-balancing mechanism system using **Kafka** to improve performance and application scalability.

Projects (<https://github.com/AkshayHebbar>)

Monte-Carlo Tree search guided Genetic Algorithm

Syracuse University

- In this research, we investigate the possibility of applying a MCTS to genetic algorithms to explore the genetic tree structure and optimize the neural network weights.
- The new architecture introduces genetic action in the MCTS sequence.

Text to Image GAN

Syracuse University

- Developed a text to image generative adversarial network for flowers using Oxford 102 flower dataset as part of academic project for Natural Language Processing course using TensorFlow framework.
- Trained the generator and discriminator networks using preprocessed image vector and text embedding data.

Credit Card Fraud Detection

Syracuse University

- Developed credit card fraud detection code in python using Machine Learning algorithms such as SVM, Regression, Random Forest and ensemble methods and compared their accuracy to classify fraudulent transactions.

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