

# AAKASH KRISHNA GS

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## TECHNICAL SKILLS

- **Areas:** Machine Learning, Artificial Intelligence, Artificial Neural Networks, Reinforcement Learning, Computer Vision, Natural Language Processing
- **Languages:** Python, Java

## WORK EXPERIENCE

### TCS Research and Innovation

Research Engineer, Data and Decision Sciences Group

Bangalore, India

July 2019 to present

- Built an Electric Vehicle (EV) User Behavior and Traffic Simulator for Luxembourg City
- Developed dynamic pricing strategies to manage demand and charger supply for EVs
- Developed Reinforcement Learning based algorithms for dynamic pricing
- Developed a parallel execution system to help speed up and automate the training process
- Optimized the entire system which ended up cutting simulation times in half

### TCS Research and Innovation

Research Intern, Data and Decision Sciences Group

Hyderabad, India

January 2019 to July 2019

- Developed a Cyber Physical Model for solar PVs
- Implemented state of the art models for solar PVs
- Built a test suite for analyzing large scale solar PV behavior
- Implemented state of the art fault detection algorithms and tested their efficacy
- Developed an automated data retrieval system for model validation
- This test suite helped develop new fault detection and classification algorithms

### Thermo Fisher Scientific

Software Development Intern

Bangalore, India

May 2018 to July 2018

- Helped automate the Thermo Scientific Spinnaker robotic arm
- Built a CNN based classifier to help the robotic arm identify specific locations for different Thermo Scientific instruments
- Built a pipeline to automate movement of hazardous chemicals to specific locations on Thermo Scientific instruments

## EDUCATION

### B. Tech Computer Science

Amrita School of Engineering

Coimbatore, India

2015 to 2019

- Graduated **First Class** with **Distinction**
- **9.3/10** CGPA
- Top **10%** of class

### 12th Grade

Suguna PIP School, CBSE

Coimbatore, India

2014 to 2015

- **96.5%**
- Top **5%** in school

## PUBLICATIONS

- [1] **Aakash Krishna**, Ajay Narayanan, Sunil Krishnakumar, Prasant Misra, Arunchandar Vasan, Venkatesh Sarangan, and Anand Sivasubramaniam. 2020. "Uberizing The Charging Ecosystem For Electric Vehicles". Proceedings Of The Eleventh ACM International Conference On Future Energy Systems. doi:10.1145/3396851.3397758.
- [2] **Aakash Krishna GS**, Vijay Nirmal Pon, Saumya Rai, and A Baskar. 2020. "Vision System With 3D Audio Feedback To Assist Navigation For Visually Impaired". Procedia Computer Science 167: 235-243. doi:10.1016/j.procs.2020.03.216.

## PROJECTS

### StockMate

Python, Tensorflow, Reinforcement Learning, AI

- A python framework for making stock price predictors and automated trading agents
- Implemented several ANN based regressors and various RL algorithms
- Built a web UI for viewing agent decisions / stock predictions
- Built a chatbot companion to let the user know of any jobs / agent decisions

### BlindVision

Python, Tensorflow, Deep Learning, Raspberry Pi

- Developed a system that helps the navigation of visually impaired people
- Using Computer Vision and Deep Learning, a 3D audio signal is created to help give sense of direction
- The methodology was formalized and the findings were published in the Procedia Computer Science Journal

## **Alnstein**

*Python, Tensorflow, NLP, ANN*

- Developed a virtual assistant for university students
- This assistant can give information about faculty such as publications, research interests, projects etc.,
- Students can get information about the university and future/current events
- Implemented a speech to text interface to make it more similar to mainstream virtual assistants
- Built in such a way that new actions and behaviors can be programmed in easily
- Built as a REST API and deployed as a Telegram based chatbot

## **AnokhaBot**

*Python, Tensorflow, NLP, ANN*

- Built a chatbot for our University's official tech fest (Anokha)
- Users interact with the chatbot to find out about events, timings, contact information, etc.,
- The chatbot was deployed on Anokha's main website and as a Telegram chatbot
- This chatbot was used by hundreds of people during the event

## **mAlncraft**

*Python, Tensorflow, Neural Networks*

- Developed an autonomous agent that learned (partially) to play the game Minecraft
- Using a CNN model, the agent learnt how to map environments to key presses
- The agent was taught how to avoid obstacles from previous game footage

## **EXTRA CURRICULAR**

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### **Organizer of t{know} Club**

*Amrita School of Engineering*

2016 to 2018

- Organized and conducted multiple events such as coding competitions, hackathons etc.,
- Conducted seminars on various topics such as building chatbots, web-scraping etc.,

### **Office Bearer of ASCII Club**

*Amrita School of Engineering*

2017

- Helped organize and conduct events for our official coding club

## **ACCOLADES**

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- **Best Outgoing Student**, Suguna PIP School
- **Adarsh Vidyarthi** (Given to class toppers), Suguna PIP School