AAKASH KRISHNA GS

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EDUCATION

Masters in Computing Science — **Edmonton, Canada**
University of Alberta — *2021 to present*
- Part of the thesis based masters program

B. Tech. Computer Science — **Coimbatore, India**
Amrita School of Engineering — *2015 to 2019*
- Graduated **First Class with Distinction**
- **9.3/10** CGPA
- Top **10%** of class

12th Grade — **Coimbatore, India**
Suguna PIP School, CBSE — *2014 to 2015*
- **96.5%**
- Top **5%** in school

WORK EXPERIENCE

University of Alberta — **Edmonton, Canada**
Gruaduate Teaching Assistant — *Sep 2021 - present*
- TA for the CMPUT 174 course in Fall 2021

TCS Research and Innovation — **Bangalore, India**
Research Engineer, Data and Decision Sciences Group — *July 2019 - Aug 2021*
- Built an Electric Vehicle (EV) user behavior and traffic simulator for Luxembourg City
- Developed Reinforcement Learning based pricing algorithms to manage demand-supply of EV Chargers
- Developed and integrated a parallel execution system to help speed up and automate the training process; Cutting execution times in half

TCS Research and Innovation — **Hyderabad, India**
Research Intern, Data and Decision Sciences Group — *January 2019 - July 2019*
- Implemented several cyber physical models for solar PhotoVoltaic (PV) cells
- Built a test suite for analyzing large scale solar PV behavior when faults are introduced
- This test suite helped generate data to validate existing, and develop new fault detection and classification algorithms

Thermo Fisher Scientific — **Bangalore, India**
Software Development Intern — *May 2018 - July 2018*
- Responsible for building an automation solution for the Thermo Scientific Spinnaker™ robotic arm
- Built a custom dataset and trained CNN based object detectors to help it identify specific locations on different Thermo Scientific instruments
- This robot removes the need for saving these locations manually, and automates the entire process for transporting hazardous chemicals from/to various biomedical instruments

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

Freelance Project: Prostate Cancer Classification
Python, PyTorch, Image Processing, Whole Slide Image Classification, Medical Image Analysis — *Jan 2021 - Aug 2021*
- Developed a novel Multi-Stage approach for Prostate Cancer Classification for class imbalance
- This method achieves around 30% better performance when compared to a single neural network trained for classification
- Developed a REST API for users to access this model and deployed it on AWS Lambda
- Designed and developed a front-end user interface. (https://master.dtf8yl7z39jhy.amplifyapp.com/)

StockMate
Python, Tensorflow, Reinforcement Learning, AI — *June 2020 - Sep 2020*
- Built a python framework for creating stock price predictors and automated trading agents
- Implemented several ANN based predictors and various RL based trading bots using the framework

- Built a web UI for viewing agent decisions and or stock predictions
- Built a chatbot to let the user know of any job updates and or agent decisions

BlindVision
Python, Tensorflow, Deep Learning, Raspberry Pi *Mar 2017 - Jun 2019*
- Built 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 an intuitive sense of direction
- The methodology was formalized and the findings were published in the Procedia Computer Science Journal

AInstein
Python, Tensorflow, NLP, ANN *Aug 2018 - Jan 2018*
- Built a virtual assistant for university students
- This assistant can give information about events, faculty such as publications, research interests, projects etc,.
- 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
- Deployed as a chatbot on Telegram

AnokhaBot
Python, Tensorflow, NLP, ANN *Sept 2017 - Feb 2018*
- Built a chatbot for my 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

mAIncraft
Python, Tensorflow, Neural Networks *Oct 2017 - Dec 2017*
- Built an autonomous agent that (partially) learned to play the game Minecraft
- Using a CNN model, the agent learned how to map states to key presses, from previous game footage

EXTRA CURRICULAR

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

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

** clicking on the project name takes you to a website showcasing the work*

** or visit the "projects" page on my personal website*