Shashank Reddy Boosi

Sydney, Australia
✉ contact@shashankboosi.me

Education

Jul'18-Sep'20 — **Masters in Information Technology (Specialisation: Artificial Intelligence)**
University of New South Wales, Sydney
Percentage: *78%*

Jul'14–Jun'18 — **Bachelors in Information and Communication Technology**
SASTRA University, Thanjavur
GPA: *8.50/10* (Dean's List)

Jul'11–May'13 — **Grade 12**
Sri Chaitanya Junior Kalasala, Hyderabad
Percentage: *96.5%*

Experience

Apr'19-Present — **Software Engineer** *Encompass Corporation*, Sydney

Started as part of the data integration team, where I was using the micro-service architecture to develop and integrate different data products, to the main application. The data products that I worked on are of various types like web scrapers, RESTful api, etc.

After gaining knowledge in data integration, moved to the platform and stability team which was formed as part of the company initiative to improve and enhance the applications - monitoring power, load-testing capabilities. Currently working on Identity Management, enhancing the authentication capabilities of the application to improve security.

- **Languages/Libraries/Tools**: Spring, Angular JS, Gatling, Mongo Atlas, Datadog, Cypress, Java, Groovy, Javascript, Auth0, etc;

Jun'20-Aug'20 — **Web Application Engineer** *Enactus*, Sydney

As part of an agile team, we created a Cataloguing administration portal for Op-shops around Australia. Features include creating Login system, Admin portal, communication between Amazon Market Seller via API, Notification system and Basic security. I was mainly involved in the architectural design, backend and the integration development.

- **Languages/Libraries/Tools**: React JS, Flask, Python, AWS, MySQL, etc;

Jan'18-Jun'18 — **Research and Development Intern** *PRaDA lab, Deakin University*, Melbourne

Achieved global maxima of benchmark reward functions with poppy (a 3D printed humanoid robot) using Bayesian Optimization where we experimented poppy using Bayesian Optimization using some benchmark functions as reward and also compared Bayesian Optimization with Genetic Algorithm through Function Evaluation Time.

- **Languages/Packages**: Python, Pypot, GPyOpt, GPy, Gaft;
- **Github Link**: https://github.com/shashankboosi/PoppyOpt

Aug'16-Nov'17 **Research Assistant** *SASTRA University*, Thanjavur
Created a novel algorithm - **HGGA**(Hypergraph based Genetic Algorithm) which is non-heuristic, producing 99.05% average similarity score and 0.918 sec time complexity.

- ○ **Algorithm Link**: https://link.springer.com/article/10.1007/s12539-017-0267-y

May'16-Jun'16 **Software Developer Internship** *Cyient Limited*, Hyderabad
Built an end to end application to detect faces in a picture and add enhancements like brightness, masking etc. The front end of the application is done using Java Applet.

- ○ **Languages/Packages**: Java SE, Java Applet, & Open CV;

Projects

Feb'20-Aug'20 **Mycroft: An AI approach to detect semantic data types using NLP and Deep Learning**
Heavily used NLP and due to the data being unstructured, had to go through various stages like data collection, transformation, filtering, pre-processing, feature extraction and then created a unique model that fits the data. Achieved the goal, by surpassing the previous best by 2%.

- ○ **Languages/Packages**: Python, Pytorch, Pandas, Numpy, Matplotlib, Gensim, etc;
- ○ **Github link**: https://github.com/shashankboosi/Mycroft;

Sep'19-Dec'19 **Automation of Diabetic Lesions and blood vessels using Unet and Gaussian Pyramids**
Worked on the IDRiD dataset to detect diabetic lesions and blood vessels in the eye, we used traditional techniques like Gaussian Pyramids and the deep learning techniques like Unet. I was completely involved in creation of a custom Unet(Neural Network) that could fit the dataset.

- ○ **Languages/Packages**: Python, Pytorch, Pandas, Numpy, Matplotlib, OpenCV, Skimage, Pillow;
- ○ **Github link**: https://github.com/shashankboosi/IDRiD;

June'19-Sep'19 **FakeNewsML: Stance Detection**
As part of a team, worked on the fake news challenge to detect if the news is fake or not based on stances which are given part of the dataset, so we took the supervised learning approach. We used traditional Machine Learning algorithms like Naive Bayes, Logistic Regression, Decision Tree, Random Forest and also applied all the data mining techniques as pre processors to ML algorithms.

- ○ **Languages/Packages**: Python, Pandas, Numpy, NLTK, Scikit Learn, Scipy;
- ○ **Github link**: https://github.com/shashankboosi/FakeNewsML;

Feb'18-May'18 **Automation of predicting the ICD9 codes on US Health care Electronic Medical Record(EMR) data using Attention Networks and Memory Networks**
Used the MIMIC-III dataset to predict the ICD9 codes based on the health conditions of a patient. The goal of the project is to find the best AI technique to automate the process of predicting the ICD9 codes instead of going to a doctor. I mainly used 3 techniques namely LSTM (Long Short Term Memory), DNC (Differential Neural Computer) using two layered LSTM as a controller and LSTM using Attention (RNN).

- ○ **Languages/Packages**: Python, Tensorflow, Keras, Gensim, Numpy, Pandas, & Pyspark;

Publications

"A Novel Hypergraph based Genetic Algorithm(HGGA) built on Unimodular and Anti-Homomorphism properties for DNA Sequencing by Hybridization" – Research article (Published by "Interdisciplinary Sciences: Computational Life Sciences" on November 6, 2017)

"A Machine Learning Approach to Prediction of death due to Monoclonal Gammopathy" - Conference paper (Accepted by "International Conference on Discrete Mathematics and Data Sciences" on September 21, 2018)

Computer skills

Languages	Java, Python, JavaScript, C++ & C
Others	HTML & CSS
Databases	MongoDB, MySQL & Oracle
Frameworks & Libraries	React, Spring, Angular JS, Django, Tensorflow, Keras, Numpy, Pandas, Matplotlib, Sci-kit learn, Datadog, Cypress, Gatling, Pypot, GPyOpt, GPy, WEKA & OpenCV

Honors & Awards

- **Four time Dean Scholarship recipient**, SASTRA University, Thanjavur
- **Two time Hostel Scholarship recipient**, SASTRA University, Thanjavur
- Placed **Second** at SCANIT fest(WEBIT.COM) contest, SASTRA University, Thanjavur

Organizations

- Member of **Ramanujan Mathematical Society**, from August 2016
- Member of **Computer Society of India(CSI)**, from July 2016
- Member of **IEEE**, from June 2016

Extra Curricular Activities

Feb'19-Mar'21 **Event's Director, *Latin Dance Society***, University of New South Wales, Sydney
Managed the weekly team events and handled the facebook and instagram pages of the society.

Aug'16-May'17 **Organizer, *Team Incorporates***, DAKSH(International Techno Management Fest)
Managed delegates visiting the festival. Organised Intern fairs and Ideation events.

Aug'15-May'16 **Organizer, *Design Team***, DAKSH(International Techno Management Fest)
Facilitated design and development of marketing materials.

Jul'15-May'17 **Student Volunteer**, *National Service Scheme*
Involved in teaching, sanitation improvement, reforestation and other community events.

Jan'10-Dec'10 **Volunteer**, *Vadaanya Janaa Society*, Hyderabad
Taught Mathematics, Science and Social Studies to students of a public school adopted by the society.