K S Bharathwaj

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EDUCATION

National Institute of Technology Tiruchirappalli — Tiruchirapalli, India
Bachelor of Technology, Electrical and Electronics Engineering — May 2018 (Expected)

Vidya Mandir Sr Sec School — Chennai, India
High School (Score: 96.2%) — March 2014

EXPERIENCE

National University of Singapore | Summer Research Intern — PI: Dr Michael Girard
May 2017 - Aug 2017 | Singapore

- Developed new CNN architectures using Keras to obtain state-of-the-art segmentation of the Optic Nerve Head(ONH) from Optical Coherance Tomography(OCT) scans.
- Achieved higher dice scores than any other model. Results to be published in Biomedical Optics Express.
- Implemented an algorithm to identify the Bruch's membrane in an ONH-OCT scan and trace it's contour throughout the entire volume file.

Indian Institute of Technology (IIT), Delhi | Research Intern — Mentor: Dr. Rahul Garg
Jul 2016 - Aug 2016 | Delhi, India

- Improved performance of Granger causality analysis of fMRI scans of human brain.
- Parallelization of the algorithm was implemented using Nvidia's CUDA C platform.
- BLAS concepts were extensively used.

Delta Force (Computing Club, NIT Trichy) | Software Developer
Aug 2015 - Present | Tiruchirappalli, India

- Head of web operations and System administrator for NITTFEST (cultural fest).
- Responsible for building and maintaining the entire computing infrastructure used by around 5,000 students.
- Developed android and web based applications for college fests.

PROJECTS

Energy Forecasting — Guide: Dr. S.Arul Daniel
Oct 2017 - Present | Trichy, India

- Implemented a LSTM based RNN to forecast the maximum energy that a renewable energy farm can generate.
- Forecasted wind speeds with very low RMSE for a month.
- Working on improving accuracy and extending concept to solar irradiance.

Random Decision Classifier — Guide: Dr. E.S.Gopi
Nov 2016 - Jan 2017 | Trichy, India

- Implemented a random decision classifier based on mini-max rule to enhance the performance of classification algorithms.
- Achieved 70% improvement when coupled with a poor classifier.

COURSEWORK

Data Structures & Algorithms
Pattern Recognition
Machine Learning
Image Processing
Linear Algebra
Differential Calculus

PROGRAMMING

PROFICIENT
C • C++ • Java • Python

FAMILIAR
Matlab • Tensorflow
CUDA • MongoDB • LaTeX
PHP • NodeJS

AWARDS

- 4th - SCDC, IIT Madras (2016)
- 2nd - GPU coding NIT Trichy(2015)
- Inspire Scholarship MHRD, Govt. of India (2014)
- 1st - Quiz, Royal Society of Chemistry, Indian Division (2014)
- 14th - National Math Olympiad (2010)