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Shashank Srikanth

Education

2016-2021 **BTech and MS by Research in Computer Science**, *International Institute of Information Technology*, Hyderabad, **CGPA: 9.69 / 10.0**.

2014–2016 **Senior Secondary**, *Amity International School, Saket*, Delhi, **95.8%**.

2013–2014 **Secondary**, *Amity International School, Saket*, Delhi, **CGPA: 10.0 / 10.0**.

Publications

June 2019 **INFER: INtermediate representations for FuturE pRediction**, *Accepted at IEEE IROS 2019*, First author paper.
Project Page: INFER, Paper link: Arxiv

November 2019 **Driving the Last Mile: Characterizing and Understanding Distracted Driving Posts on Social Networks**, *Accepted at AAAI ICWSM 2020*.

October 2019 **Is change the only constant? Profile change perspective on #LokSabhaElections2019** , *Submitted to CODS-COMAD 2020*.

Experience

July 2018 - Present **Undergraduate Researcher, Precog Lab** , *Prof. Ponnurangam Kumaraguru*, IIIT-Delhi.
As part of 2019 Indian general elections project, I analyzed social media accounts of more than 60 million twitter users to detect twitter bots and characterize profile change behaviour.
Was also part of a project that involved writing python scripts & scrapers to collect video data from Snapchat Maps. Implemented deep learning models based on 3D Resnets to classify these videos as driving & non-driving and performed spatiotemporal analysis.

May 2018 - Present **Undergraduate Researcher, Robotics Vision Lab**, *Prof. Madhava Krishna*, IIIT-H.
Implemented deep learning models to compute semantic, instance segmentation & disparity maps of outdoor scenes. Designed deep learning models based on LSTMs and CNNs to predict the future trajectory of vehicles in roads given the past trajectory.

June 2019 - Present **Data Science Intern**, *Prof. Siddharth Sharma*, ISB, Mohali.
The work involves analysing the job postings made in US in the Indeed website to infer the impact of new branches opened by large companies and start ups on the job market.

May 2017 - June 2017 **Web Development Intern**, *SynapseIndia*, Noida.
Developed a Custom Content Management System using MySQL, PHP, CakePHP & Python. Implemented Payment Gateway using the PayPal API

Aug 2018 - Present **Teaching Assistant**, *IIIT-H*.
Operating Systems & Digital Signal Analysis: The work involves taking tutorial and lab sessions, explaining concepts of given course to 2nd year undergraduate students

Projects

Wikipedia Search Engine Implemented efficient and scalable search engine on Wikipedia data. Used tf-idf statistic for ranking of documents.Implemented multi level indexing and used threading for fast retrieval of documents.

Reinforcement Learning	Implemented the paper "Deep Reinforcement Learning in Large Discrete Action Spaces" using PyTorch and PyFLANN library. The work involved extending the DDPG algorithm to work in environments with large discrete action spaces using k-nearest neighbour approximation.
Hashtag Generation	Designed and implemented a multimodal hashtag generation pipeline that suggests new hashtags for an Instagram post with images & text. The approach used CNNs for image classification and glove-embeddings for recommending semantically similar hashtags.
Big Data & Policing	Wrote scripts to collect over 3 million e-challans (Electronic traffic-violation receipt) data from the traffic violation portal of Ahmedabad police. Characterized spatial and temporal patterns in the data, and proposed a random forest classifier to model recidivism in traffic violations. Work submitted to *CODS COMAD 2020*
AI Bot	Built a bot for playing 4*4*4*4 ultimate tic-tac-toe using algorithms such as minimax and alpha-beta pruning. Implemented custom heuristics, caching, iterative deepening search, caching etc. The bot placed third in the Bot championship conducted
Computer Vision	Computed the camera calibration matrix using Zhang's method. Reconstructed the 3D scene up to a scale given multiple views of the scene
Networks	Implemented a client server architecture using sockets with both persistent and non persistent connections. Also developed a proxy server with features such as threading, LRU caching, non-blocking etc.
Bash Shell	Developed a shell in C using POSIX system calls. Implemented features like killing a process, input/output redirection, piping and signal handling
Database Engine	Implemented a mini SQL engine that supported various SQL operations like select, join & where clause.

Scholastic Achievements

Dean's Merit List	Top 5 rank in the branch, selected in Dean's Academic Merit List for all the semesters (Awarded to top 5% performers)
Dean's Research List	Received the Dean's Research Award for excellence in research
KVPY	Secured rank 560 in Kishore Vaigyanik Protsahan Yojana, a Govt. of India Initiative
JEE Mains	Secured rank 871 in JEE Mains out of 1.2 million candidates
ML	Secured top 100 all India rank in FlipkartGrid ML challenge

Technical Skills

Working Knowledge	Python, C, C++ (STL), Linux, MATLAB, PyTorch, HTML/CSS
Past Experience	Tensorflow, Flask, SQL, Javascript, Selenium, Scikit-learn, OpenGL

Courses

Research Stream	Information Retrieval, Machine Learning, Deep Learning, HCI, Optimization Methods, Big Data & Applications, Reinforcement Learning, Robotics & Computer Vision, Machine Learning for Natural Sciences
Computer Science	Data Structures, Algorithms, Databases, Software Design, Artificial Intelligence, Graphics, Operating Systems, Computer Networks
Mathematics	Linear Algebra, Probability, Group Theory, Differential Equations