Srikanth Kuthuru
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ACADEMIC DETAILS

Program	Institute	Year	CGPA / %
Doctor of Philosophy (PhD) Electrical and Computer Engineering	Rice University	2021	4.0
Bachelor of Technology, Major - Electrical Engineering Minor - Mathematics	IIT Madras	2016	8.39
12th Grade	Sri Chaitanya Junior College	2012	95.2%
10th Grade	Sri Chaitanya Techno School	2010	93.5%

FIELDS OF INTEREST

- Bio-informatics, Machine Learning, Deep Learning, Computer Vision, Crowdsourcing Analytics

TECHNICAL SKILLS

- **Languages** (C,Python), **Tools** (MATLAB, PyTorch, LabView,R Studio)

SCHOLASTIC ACHIEVEMENTS

- Selected for Kishore Vignanik Protsahan Yojana (KVPY) fellowship for research aptitude from the Indian Institute of Science (IISc), Bangalore (2012)
- **Placed in Top 0.5%** in the IIT-Joint Entrance Examination, 2012
- **Placed in Top 0.5%** in the All India Engineering Entrance Examination (AIEEE), 2012
- **Placed in Top 0.1%**out of 2,92,000 students in the Engineering, Agriculture and Medical Common Entrance Test (EAMCET), 2012 conducted in Andhra Pradesh State
- **Placed 1st** in Visakhapatnam District in Ramanujan Maths Talent Test,2008
- **Ranked 290** in State Level Science Talent Search Examination (SLSTSE),2005 in Andhra Pradesh

PROFESSIONAL EXPERIENCE

- **General Electric, Bangalore** (Summer Intern)
  (May'15 - July'15)
  - Worked with the Train-Control team on an End Of Train (EOT) device which is used in GE locomotives
  - Performed hardware Validation of the EOT device
  - Developed an EOT Virtual Instrument in LabView for easy integration with the locomotive system
- **UNIPHORE, Speech based Mobility Solutions - IITM Research Park** (Summer Intern)
  (May'14 - July'14)
  - Worked on Voice Biometric Systems
  - Used MMSE Spectral Subtraction method for removing front end noise before passing the audio samples to a speaker recognition engine
  - Final algorithm has significantly increased the user enrollment and authentication rates

MAJOR PROJECTS

- **Radiomics** *(Guide: Dr. Arvind Rao, Jan'17 - present)*
  - In Radiomics, statistical models are built on MRI image data of cancer patients to predict patient prognosis and other clinically relevant variables. We have used dictionary learning algorithms to build models on the glioma patient data available at the TCGA website.
- **Array Signal Processing** *(Guide: Dr. Sri Krishna Bhashyam, Aug'15 - May'16)*
  - Performed a literature survey on various kinds of algorithms used in estimating Direction of Arrival(DOA) of Multiple Sources
  - Implemented high resolution DOA estimation algorithms like MUltiple SIgnal Classification (MUSIC), ESPRIT in Matlab, and studied their spatial resolution, noise characteristics
  - Nested Arrays or Co-arrays can detect DOA of $O(N^2)$ sources with just N sensors which was not possible with Uniform Linear Arrays (ULAs). We proposed a faster approach using ESPRIT for DOA estimation with Nested Arrays.
- **Autonomous Underwater Vehicle (AUV)** (Centre For Innovation-CFI, IIT Madras) *(May'13 - July'13)*
  - Worked on Passive Sonar Navigation System
  - Used Time Difference of Arrival(TDoA) method for Sound source localization

RELEVANT COURSEWORK

- **Machine Learning and Signal Processing:** Artificial Intelligence, Optimization for Data Science, Statistical Learning and Data Mining, Neural Signal Processing, Intro to Computer Vision, Random Processes, Adaptive Signal Processing, Digital Communications, Probability and Stochastic Processes, Applied Time Series Analysis, Networks and Systems, Digital Signal Processing, Analog and Digital Filters, Error Control Coding, Modern Coding Theory, Discrete Mathematics, Optimization methods in signal processing and communications.

COURSE PROJECTS

- **Error Correcting Codes:** *(Course: Modern Coding Theory, Sep'15 to Oct'15)*
  - Designed and simulated a Low Density Parity Check (LDPC) code and a Turbo code which perform near Shannon limit
- **Spectrum Analyzer:** *(Course: Analog Circuits Laboratory, Apr'15)*
  - Designed a spectrum Analyzer which can display frequency content of range 0-5kHz.
  - Implemented a fourth order chebyshev low pass filter, a bandpass filter and an envelope detector

POSITIONS OF RESPONSIBILITY

- **ECE-GSA Mentorship Coordinator at Rice, 2017**
  - Organise the first-year mentorship prgram that connects the incoming graduate students with senior graduate students.
- **External-Affairs Coordinator for ISAR group, 2017** *(ISAR: Indian Students At Rice)*
- **Hospitality Deputy Coordinator -** *(Saarang-2014, Annual cultural fest at IIT Madras)*
  - Cleared queries of the participants and held responsibility in connecting the event management team and the participants
- **Sports Coordinator for Tapti hostel, IIT Madras** *(Jul'13 to May'14)*

EXTRA-CURRICULAR ACTIVITIES

- **Sports**
  - Member of National Sports Organisation(NSO),Volleyball
  - Member of the Hostel Volleyball team where we won a silver medal in the Inter-Hostel Competition in May 2014
- **Miscellaneous**
  - Successfully completed a Himalayan Trek involving a 53km of hiking to Sandakphu, summit of West Bengal, India
  - Developed a basic media player which recognises the actor's faces in a movie by comparing them with images online. This project was done as a part of Hackathon competition, conducted by Microsoft at IIT Madras