Shagesh Sridharan
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ACADEMIC DETAILS

Program	Institute	GPA/CGPA/%	Year
PhD in Physics	*Rutgers University, New Jersey*	3.90	*Current*
B.Tech. in Engg. Physics	*Indian Institute of Technology Madras, Chennai*	9.33	2017

RELEVANT COURSEWORK

- Large scale data analysis
- Algebraic Theory of Codes & Automata
- CISSP *(in progress)*
- Mathematical Logic
- Quantum Computation & Quantum Information
- Machine Learning & Data Science *(in progress)*

PROJECTS

- **Neural network construction** — *2019-present*
  *(Guide: **Prof. Anirvan Sengupta**, Rutgers University)*
    - Aim is to make the network biologically plausible
    - Used similarity matching objective to create online neural network that doesn't use back-propagation
    - Tested it on MNIST and CIFAR10 dataset
    - Modified the objective function in attempt to decrease training time

- **Data Analysis** — *2018-2019*
  *(Guide: **Prof. Anirvan Sengupta**, Rutgers University)*
    - Analysed Hippocampus imaging data of mouse
    - Used manifold learning algorithms to visualize and interpret high dimensional extensive data
    - Fitted theoretical model to data using Maximum Likelihood techniques
    - Analysed the fitted model and observed systematic trends in hippocampal data

- **Matlab Modeling** — *Summer '15*
  *(Guide: **Dr. Ananda Ramadass Gidugu**, National Institute of Ocean Technology, Chennai)*
    - Mathematically modeled a Robotic Fish to increase energy efficiency
    - Simulated different motor trajectories for given Robotic fish model in Matlab
    - Calculated efficiency parameters for common aquatic motions

PROFESSIONAL EXPERIENCE

- **Mobile Application Development** — *Summer '14*
  (Company: HyperVerge Labs, Chennai)
    - Aimed at creating an iOS application, portable to other App Stores, that does intelligent Image Search
    - Part of the team responsible for the front end development of the application
    - Prototype application secured over $50,000 in funds

MINI PROJECTS

- Java-scripts to compile information in browser based online games
- Python program that solves crosswords using online word lists
- C++ program to solve Sudoku of any difficulty
- C++ programming to make hangman, tiles and few other simple games

TECHNICAL SKILLS

- Command over **Programming Languages** (C, C++, Python)
- Familiarity with **Database** (MySQL), **Tools** (LaTeX, Gnuplot, Matlab, Mathematica), **Languages** (Javascript, HTML)

SCHOLASTIC ACHIEVEMENTS

- Awarded David C. Langreth Graduate Development Award in 2019
- Awarded prizes for securing the highest CGPA in third & fourth semester, fifth & sixth semester and overall
- Secured an **All India Rank** of **135** and **State Rank** of **15** in JEE (Mains)-2013, and **All India Rank** of **1478** in JEE (Advanced)-2013
- Awarded Certificate of Merit for being among the **Top 0.1%** of successful candidates of AISSCE 2013 in Mathematics and in Computer Science
- Qualified for KVPY fellowship in 2013
- Cleared all levels up to Indian National Astronomy Olympiad-2013
- Participated in Nationals for Mathematics Quiz in 2012
- Qualified to participate in Indian National Mathematics Olympiad-2011
- Placed in **Top 1%** in National Standard Examination in Junior Science-2010

HOBBIES & OTHER INTERESTS

- Reading novels & research papers
- Hiking & Trekking
- Learning languages *(currently Spanish)*
- Tutoring & teaching
- Video-gaming
- Playing keyboard