Swapnil Das

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Academic Details

Year	Degree	Institute	CGPA/Percentage
2015-2019 (Current)	B.Tech in Computer Science and Engineering	Indian Institute of Technology Delhi	8.21/10
2015	Class XII, CBSE	Hope Hall Foundation School	95.8%
2013	Class X, CBSE	Jawahar Navodaya Vidyalaya	10/10

Scholastic Achievements

- Selected in KVPY program initiated by Department of Science & Technology, India with **All India Rank 17**
- Among top **23** students in AISSE and **25** in AISSCE to receive scholarship by Min of HRD for board exam results
- Secured **98.22 percentile** in **JEE-Advanced** & **99.88 percentile** in **JEE-Mains** amongst **1.4 Million** candidates
- **Runners up** in **Microsoft** Code.Fun.Do hackathon. Created a game in Visual Studio using C#
- Ranked in **top 100: 67 & 74** in Quantopian's 6 month long algorithmic trading contest held worldwide.

Internships

Software Development Intern at Amazon Development Center, Bangalore, India May - July 2018

- Developed an API to re-drive events in Amazon Advertising Accounting Automation service to resolve discrepancies
- Implemented **LDAP**(Lightweight Directory Access Protocol) service for regulating control over use of public APIs
- Developed Budgeting API to correct budget status of advertisers, syncing real time upstream and downstream services
- Budgeting API gained improvement of **20X** from the existing architecture which required API service to be restarted

Research intern at National University of Singapore(NUS), Singapore Prof Ben Leong, May - Jul 2017

- **Optimized Power** usage in heterogeneous cluster by scheduling jobs in **wimpy nodes** with trade-off in performance
- Achieved **17 times** lower power consumption by an efficient wimpy node powered by Intel Celeron processor compared to Intel Xeon processor with same number of cores and similar per-core frequency. Trade-of was increased latency
- **Rate adaptation** in commodity off the shelf routers by changing **per packet** bandwidth in **Wi-Fi** technology

Software developer at AccioJob(startup funded by YCombinator) Work from home, Jan - Mar 2019

- Website developer with core parts in Django based backend, developed video streamer with scheduler, chat application, database models for other business related applications

Major Projects

B.Tech Thesis, ML for Human Approachability estimation Prof M. Balakrishnan, Aug 2018 - present

- Using Intel Movidius to speedup OpenFace based Face recognition for faster and efficient face recognition in real time
- Developing Computer Vision based **Convolutional Neural Network** models for Human Approachability estimation

Developing Quantitative Trading Strategy Auquan, Feb - May 2018

- Completed **LSTM Prediction Model** to develop Long Short Equity Strategy for stocks on National Stock Exchange
- Designed, back-tested and optimized a data driven quantitative trading strategy on real world data

Handwritten Digits & Sketches Recognition, Machine Learning Prof Parag Singla, Jan - Apr 2018

- Applied Classification algorithms such as **SVM & Neural Nets**; Interpreted the effect of various parameter choices
- Implemented and applied clustering algorithms such as **K-Means & Gaussian Mixture Model** on MNIST data-set
- Reduced dimension of data using **PCA**, learned and analyzed features on both processed and raw images
- Achieved **94.5%** accuracy in a hand drawing recognition Kaggle competition and came among **top 10** of the batch

Camouflaging an Object from many Viewpoints, Computer Vision Prof Subhashis Banerjee, Oct - Nov 2017

- Implemented MRF to find efficient trade-of between detection cues. Used Multi-Label Optimization to solve the model
- Applied Structure from Motion to place a 3D object in the recreated 3D scene. Applied Blender for an user interface

Technical Skills

- **Programming Languages:** Python, Java, Go, C++, C, JavaScript, OCaml, Lex, Yacc, VHDL, HTML, CSS
- **Frameworks/API:** Tensorfow, Pytorch, Spring, Lombok, Guice, Keras, Docker, Cadvisor, jQuery, MATLAB

Relevant Courses

- Machine Learning, Operating Systems, Data Mining, DBMS, Computer Vision, Algorithm Design, AI, Computer Architecture, Data Structures & Algorithms, Discrete Mathematics, Probability & Stochastic process

Positions of Responsibility

- **Mentor of 6 1st year students under Students Mentorship Program, IIT Delhi** Apr, 17 - Apr, 18
  Guiding the students to get acquainted with the IIT Delhi system and excell in overall personality development
- **Hostel representative, Students Affairs Council representative, elected by 600 students** Apr,17 - Apr,18
  Raised the issue of institute wide WiFi and the issue of fair allotment of new comers in all the hostels
- **Website coordinator of Entrepreneurship Development Cell(eDC), IIT Delhi** Jul, 16 - Apr, 17

Extra-Curricular Activities

- **Runners up** in **Microsoft** Code.Fun.Do hackathon. Created a game in Visual Studio using C# Jan, 2016
- Regional Badminton player from Jawahar Navodaya Vidyalaya under Shillong Region. Sep, 2013
- 3rd place in Intra District debate competition held at Barpeta district Assam, India Apr, 2012
- Completed a 7 year course in Fine Arts. Achieved 2nd position in inter-hostel split painting contest 2001 - 2008