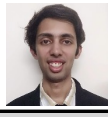
AYUSH GUPTA



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech and M.Tech in Computer Science & Engineering	Indian Institute of Technology, Delhi	8.007
2014	Maharashtra State Board	Dinanath Junior College	90%
2012	ICSE Board	Seventh Day Adventist	90.28%

INTERNSHIPS

- **Works Applications Co. Ltd., Tokyo**: *Enterprise User Search for Scheduler* [May, 2017 - July, 2017]
  - Developed a **User recommendation engine** in **Apache Spark** using ensemble of **SVD** and Co-Occurrence data.
  - Implemented and tested other techniques like **Hierarchical User Clustering** and **Collaborative Filtering**.
  - Devised strategy to test and save Model in **RedisDB** and **fetch recommendations efficiently** in Front End.
- **Goldman Sachs, Bangalore** : *Feature Recognition in Financial greeks* [May, 2018 - July, 2018]
  - Implemented **targeted checks** for some financial security types by observing coarse expected behaviors of greeks
  - Built framework to do **data driven checks** for the standard regulatory stress scenarios in Y14Q

  *Generalized framework built using **outlier detection and clustering** algorithms was able to scale to many security types*
- **Loughborough University, UK** : *Technologies used: MATLAB, Kinect* [May, 2016 - July, 2016]
  - Developed tool to simulate Human movement using **quaternion data of IMUs** for mapping dance patterns to meaning.
  - Explored algorithms to extract meanings out of dance movements by the **functional grammar** developed using **SFL**.

PROJECTS

- **Poverty Mapping using Satellite Data, Minor Project (Prof. Aaditeshwar Seth)**: [July, 2017 - May, 2018]
  -Built Models for **census labels** prediction at village granularity using **transfer learning** and **CNNs** trained from scratch.
  -Developed Built-up area classifiers in GEE using **Random Forests, Cart** and **SVM** on **Landsat, Nightlights** data
- **Cloud Computing Projects (Prof. S C Gupta)**: [July, 2017 - Nov, 2017]
  -Designed Schemes for **Consolidation, Partitioning, Replication, SnapShoting** for Simulation of Disk Virtualization
  -Deployed Mini Social Web Application on **Azure**; Designed user databasing schemes using **Object** and **Table** Storage
- **Blockchain Projects (Prof. Vinay Ribeiro)**: [Jan, 2018 - May, 2018]
  -Built a **P2P cryptocurrency** simulator, designed blocks, transaction broadcasting schemes with proper **fork resolution**
  -Deployed **Smart Contract** for Media Distribution on Ethereum Testnet providing offchain encryption-decryption interface
- **A basic functional shell (Prof. Sorav Bansal)**: [Jan, 2017 - May, 2017]
  -Implemented functionalities like port and memory mapped IO, and threads via **stackless coroutines** and **fibers**
  -Added *non-preemptive* and *preemptive* scheduling and a **Single Producer Single Consumer** queue for concurrency
- **Data Mining Projects (Prof. Sayan Ranu)**: [July, 2017 - Nov, 2017]
  -Implemented, Compared Greedy Maximal Marginal Selection with Page Rank for **Influence Maximisation** in Networks
  -Compared **Frequent Subgraphs** mining algos.; Used Mined graphs as features for **malignancy** detection of molecules
- **Artificial Intelligence Projects (Prof. Mausam)**: [July, 2016 - Nov, 2016]
  -Built a Tak **AI bot** using **Minimax algorithm, alpha-beta pruning** and powerful **heuristic** for assessing gamestate
  -Created an **artificially intelligent elevator control** modelled using **Markov Decision Processes** and **UCT**
- **Frame-wise Identification of Dominant Speaker in Videos (Prof. Prathosh A.P.)**: [Jan, 2018 - May, 2018]
  -Used **transfer learning, fine-tuning** on CNN networks pretrained on FaceNet using **VGG16, ResNet18 and AlexNet**
  -Extracted faces using **Haar Cascade**(OpenCV), **Hog based classifier**(Dlib); compared **t-SNE** visuals of learnt weights

SCHOLASTIC ACHIEVEMENTS

- **IITD Semester Merit Award:** Awarded for being in **Top 7%** of the entire institute in the first semester. [2014]
- **Asian Physics Olympiad:** Won **bronze** medal at the **15th Asian Physics Olympiad, Singapore** [2014]
- **National Olympiads:** Awarded Gold Medal for being in **Top 40** of India in both Physics and Chemistry Olympiad [2013]
- **Kishore Vaigyanik Protsahan Yojana:** Secured All India Rank-14 and awarded **fellowship** by IISc, Bangalore [2012]
- **SCRA:** All India Rank 2 in Special Class Railway Apprentice Examination conducted by **UPSC**. [2014]

COURSES DONE

Discrete Mathematical Structur, Probability & Stochastic Pro., Microeconomics, Computer Networks, Machine Learning, Analysis &design Of Algorithms, Operating Systems, Cloud Computing Techno. Funda., Wireless Networks

TECHNICAL SKILLS

- **Programming Languages** : C++, JAVA, Python, MATLAB, Scala, R, Bash Scripting, Standard ML, JavaScript.
- **Frameworks and Libraries** : Scikit-learn, TensorFlow, Android Studio, Apache Spark, CUDA, OpenMP