Anmol Porwal

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EDUCATIONAL QUALIFICATIONS

Year	Qualification	Institute	CGPA/%
2015-19	B.Tech, Computer Science and Engineering	Indian Institute of Technology Kanpur	9.2/10
2018(Spring)	Exchange semester, Computer Science	Ecole Polytechnique Fédérale de Lausanne (EPFL)	5.4/6
2015	XII (CBSE)	Annie Besant School, Indore	95.4%

AWARDS AND ACHIEVEMENTS

- Secured **All India Rank-155** in **IIT-JEE Advanced** 2015 among 150,000 candidates
- Received **Academic Excellence Award** for two consecutive academic years 2016-17 and 2017-18 at IIT Kanpur
- Secured Rank 25^{th} in **ACM-ICPC Chennai Onsite Round 2017** amongst 120 teams shortlisted through previous rounds
- Secured Rank 70^{th} in **ACM- ICPC India Regionals, Online Round 2017** amongst 2500+ teams from over the country
- Secured **1st position** in **Blockchain hackathon**, Techkriti'17 (Annual Tech Fest), IIT Kanpur
- Selected in **Top 1%** in **NSEC** and **NSEA**-2014; Awarded Kishore Vaighyanik Protsahan Yojana (**KVPY**) Fellowship-2015

WORK EXPERIENCE

- **Quantitative Strategist** *Jun 2019 - May 2021*
  Quadeye Securities, India
  – Created time efficient low/mid frequency trading strategies for global equity and equity derivative markets
  – Researched on big financial datasets for alpha generation, designed new trading strategies and improved the existing ones
  – Performed statistical analysis in R, ran simulations, backtested and implemented the strategies in C++
- **Tracing Tubular Structures on Medical Images** *Mar-Jul 2018*
  Prof. Pascal Fua, Computer Vision Lab, EPFL
  – Proposed a method that can efficiently detect neurons in confocal microscopy images of axons in mouse brain in one go without the need of setting many hyper parameters, as opposed to most current multi-step algorithms
  – Implemented the algorithm consisting of a Deep Neural Network using **PyTorch** framework in Python
- **Explainable Deep Learning Models** *Dec 2017-Feb 2018*
  Dr. Reza Shokri, Assistant Professor, National University of Singapore
  – Researched on how sensitive information can be leaked from Deep Learning Models, using **Tensorflow**
  – Aimed at approximating deep learning models with multiple smaller models and analysing the relationship among them to get an insight into the structure of the deep model under consideration.
- **Software Developer Intern - IIT Kanpur - NYC Office** *May-Jul 2017*
  Prof. Manindra Agrawal, IIT Kanpur
  – Managed linux systems and integrated development workflow from various teams in a secure and scalable way
  – Deployed various containerized applications over a **Kubernetes** cluster with nodes spread across multiple datacenters
  – Increased infrastructure portability by decoupling configuration artifacts from image content using configmaps
  – Automated building and deployment of docker images into production using rolling upgrade via Jenkins CI server

KEY ACADEMIC PROJECTS

- **Robust Journey Planner** *Mar-Jun 2018*
  Lab in Data Science, Prof. Olivier Verscheure, EPFL
  – Extracted and preprocessed the data published by Open Data Platform Swiss Public Transport using **PySpark** and **Pandas**
  – Estimated the probability of successfully completing the specified trip using probabilistic models based on exponential distributions and also using various supervised learning methods such as random forests, linear regression and MLPs
- **Empirical Comparison of Optimizers for Deep Learning** *Mar-Jun 2018*
  Optimization for Machine Learning, Prof. Martin Jaggi, EPFL
  – Investigated and empirically compared the convergence properties of Quasi-Newton methods(L-BFGS) to gradient- and stochastic gradient descent and adaptive gradient methods(Adam and RMSprop) for optimizing neural networks
  – Analysed convergence and resource usage of each optimizer; used the optimizers implemented in the **PyTorch** framework

OTHER PROJECTS

- **Implementing from Scratch a Mini Deep Learning Framework** *Deep Learning, Prof. François Fleuret, EPFL*
- **Reviewer Recommendation Framework** *Machine Learning Techniques, Prof. Purushottam Kar, IIT Kanpur*
- **Golang to x86-64 Compiler in Python** *Compiler Design, Prof. Amey Karkare, IIT Kanpur*
- **Extending NachOS Operating System** *Operating Systems, Prof. Mainak Chaudhuri, IIT Kanpur*
- **Live Video Multistreamer** *Computer Networks, Prof. Dheeraj Sanghi, IIT Kanpur*

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant**: Data Structure and Algorithms (ESO207); **Tutor**: Fundamentals of Computing (ESC101), IIT Kanpur
- **Manager, Software Corner Events, Techkriti'17, IIT Kanpur**: Overall Conduction of Software Corner Events
- **Member, Organizing Team CSAW 2017, IIT Kanpur**: Responsible for designing and maintaining the CSAW website
- **Student Guide, Counselling Service, IIT Kanpur**; **Secretary, Programming Club, IIT Kanpur**

RELEVANT COURSEWORK

†-completed at EPFL

Optimization in ML†	Lab in Data Science†	Computer Vision†	Deep Learning†
Machine Learning Techniques	Probability and Statistics	Algorithms-II	Compiler Design
Operating Systems	Computer Networks	Microeconomics-I	Macroeconomics-I

TECHNICAL SKILLS

Programming Languages : **C++**,**R**, **Python**, Matlab, Shell scripting, Socket Programming
Tools : Apache Spark, Kubernetes, Docker, Git, Vim, LaTeX
Machine Learning tools : PyTorch, Tensorflow, Pandas, Scipy, Scikit-Learn