

EMPLOYMENT

Machine Learning Engineer	Google	Dec 2018 - Present
<ul style="list-style-type: none">Developed multiple end-to-end ML pipelines for different object detection and image classification tasks.Accelerated data labeling, model training & evaluation for billions of StreetView images across the world.Researched on state-of-the-art computer vision techniques & incorporated them in our tools & usage patterns.		
Software Engineer II	Google	Jun 2017 - Dec 2018
<ul style="list-style-type: none">Developed tools for performance optimization & debugging of Deep Learning models running on TPUs.Optimized several critical components reducing the performance tracing latency and memory consumption.Awarded spot bonus for contributions and impact made in the successful launch of the TPU v3 hardware.		
Software Engineer	Oracle	Sep 2015 - Jun 2017
<ul style="list-style-type: none">Designed & developed multiple components of the order processing infrastructure at Oracle Public Cloud.Owned several components; handled live customers, production issues and data migration from time to time.		

PUBLICATIONS

<i>Identifying Hierarchical Structures in Sequences on GPU</i>	<i>IEEE ISPA '15</i>
Invented Pequitur, a parallel algorithm to compress and infer hierarchical structure from a string sequence. Achieved 3x speedup while maintaining similar compression ratio as industry-standard algorithm Sequitur.	
<i>TraffTrend - Real Time Traffic Updates & Trends using Social Media Analytics</i>	<i>ACM CoDS '15</i>
Analyzed news, tweets & Facebook posts to show real time traffic updates & trends for major cities in India using natural language processing and training a random forest classifier with 82.3% accuracy.	
<i>Syllables as Linguistic Units?</i>	<i>ICON '14</i>
Established that unsupervised syllabic approach outperforms orthographic word model by identifying nouns (with semantic context) in a language with no prior knowledge or word boundary information.	
<i>Autonomous Rubik's Cube Solver Using Image Processing</i>	<i>IJERT '13</i>
Engineered and fabricated an autonomous 3x3 Rubik's cube solver with a webcam that scans the configuration and four mechanical hands that rotates and solves the cube in close to 20-25 moves (video).	

TECHNICAL EXPERIENCE

- Algorithmic Trading** (June 2019 - Present): Developed (and invested my own money in) an automated trading system that make trades in the equity and options market depending on the market volatility (15% - 30% APY).
- Visiting Research Scholar at University of Heidelberg, Germany** (Summer 2015): Explored & computed multi-dimensional Finite Time Lyapunov Exponent ridges in space for particles given mass & velocity on GPU.
- Google Summer of Code** (Summer 2015): Conceptualized & implemented an open source 'Distributed Order Processing System' to distribute jobs among various worker nodes around the world using Docker containers.
- Research Intern, Directi** (Summer 2014): Modeled and devised a real time 'Anomaly Detection Engine' to recognize and report anomalies or outliers for continuously generated advertisement production data.
- Robotics Engineering Intern, Systemantics** (Summer 2013): Researched and developed an Android application from scratch to track a user's attention and regulate access to the locomotive controls of a robotic arm.

EDUCATION

India	IIT Kanpur	Jul 2011 – May 2015
<i>B.Tech in Computer Science & Engineering; Minor in Industrial Management & Engineering</i>		
<ul style="list-style-type: none">Graduated with Distinction; In-Major CGPA: 3.9/4.0Awarded Academic Excellence award for exceptional academic performance.A* grade in four courses and two 'Best Course Project' awards.Secured 176 rank (top 0.03%) in IIT-JEE entrance examination.		

Coursework: Data Structure & Algorithms, Operating Systems, Compiler Design, Natural Language Processing, Computer Vision, Computer Networks, Database Design, Game Theory, Social Media Analytics, Discrete Maths

Tools & Languages: C++, Python, TensorFlow, Keras, Java, R, SQL, CUDA, Docker, Hadoop, Spark, OpenCV