

# VINEET VINAYAK PASUPULETY

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## EDUCATION

### GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA

MS, Computational Science & Engineering, College of Computing | Expected Dec 2018

Specialization: Computer Vision, Deep Learning, Natural Language Processing

### NATIONAL INSTITUTE OF TECHNOLOGY, TRICHY

B.Tech, Electronics & Communication Engineering | May 2017 | CGPA: 8.9/10.0

## SKILLS

- **Programming/Scripting Languages:** (Proficient) C++, Python, MATLAB, SQLite; (Familiar) Java, NodeJS, Mathematica, R, GAMS, LaTeX, Android Eclipse
- **Frameworks/Libraries:** (Proficient) Keras, TensorFlow, NLTK, OpenCV, Scikit-Learn, Numpy, D3, TextBlob; (Familiar) Hadoop, Pig, Hive, Spark, Azure, Django, Git, Gephi

## EXPERIENCE

### COLLEGE OF COMPUTING | Graduate Researcher, [Data Analytics & Simulation Lab](#)

August 2017 – Present | Guide: [Dr. Hongyuan Zha](#) | Atlanta, USA

- Working on Spatio-Temporal Multi-Step Reasoning in videos using Dynamic Knowledge Graphs and Visual Question Answering

### ADOBE | Research Intern, [Big Data Experience Labs](#)

May 2017 – August 2017 | Guide: [Dr. Niyati Chhaya](#) | Bangalore, India

- Designed deep models to capture complex edits Photoshopped onto natural images; trained them on exhaustively curated datasets of 9000 images, 1300 Photoshop tools and 178 tutorials
- Performed Dependency Parsing/Vector Space Analysis/Topic Modelling to map Photoshop tool-effect-region tuples into meaningful tutorial steps for novices; Full Training achieved in 23 hours
- Developed with **TensorFlow/NLTK/OpenCV** and **D3** for plugin for Photoshop CS6' next release
- Awarded the **"Most Creative Research Project"** for 2017 amongst 23 teams

### COMPSIG | Researcher, Pattern Recognition & Computational Intelligence Labs, NITT

Jan 2017 – May 2017 | Guide: [Dr. E.S. Gopi](#) | Trichy, India

- Developed sentiment mining algorithms to rate 142.8 million online product reviews on basis of polarity & subjectivity/objectivity; achieved 72% accuracy compared to GroundTruth ratings
- Concisely visualized classified reviews; achieved cache oblivious improvement of 27 minutes
- Developed with **Numpy/Matplotlib/NLTK/Django** and **D3** for the Bachelors Thesis

### JET AIRWAYS | Software Intern, Supply Chain

Nov 2016 – Jan 2017 | Guide: [Mr. Ishan Dhar](#) | Mumbai, India

- Performed predictive analytics for MRO activities; lead 10 planners to cut man hours by 8%
- Reconfigured automated inventory management modules for B737 fleet, saving \$1M/month

### TLI – AP | AI Research Intern, NUS Business School

Jan 2016 – July 2016 | Guide: [Dr. Mark Goh](#) | Kent Ridge, Singapore

- Ideated air freight route games to model multiagent strategy equilibrium for resource allocation
- Designed System Dynamic simulations to mine financial strategies for airline alliance stability
- Developed with **Mathematica, GAMS & AnyLogic**; Published 2 international conference papers
- Only Indian undergraduate to be awarded [IRI Fellowship 2016](#)

### CiSTUP | Research Intern, Indian Institute of Science

September 2015 – February 2016 | [Dr. Ashish Verma](#) | Bangalore, India

- Solved computational social choice problems to develop optimal strategies for airlines to compete against high speed rail services in developing economies. Implemented in **MATLAB**
- Simulated optimal quantities and frequencies over travel times, willingness-to-pay, passenger types etc. to mine demand insights. Paper under review in [Transportation Research: Part B](#)

## INDEPENDENT PROJECTS

- **Image Denoising Game Design and Algorithms** November 2016  
Designed game theoretic heuristic in **MATLAB** for finding optimal quality neighbours to improve denoised pixel estimates and reduce intensity correlation; Achieved optimal tradeoff in metrics
- **Stock Market Stability Analytics** October 2016  
Used **Pandas/NumPy** to scrap stocks of Fortune 500 companies; Measured stability indices from capital returns since IPO & stock market sentiment from Tweekchup.com
- **ANNs & Nature Based Optimizations for Microwave Filter Design** March 2016  
Designed optimal Microwave filters in **MATLAB**, using Artificial Neural Networks & Nature Based Optimizations like PSO/ACO/SNO etc. with varying specifications.
- **Estimation-based AWGN Filtering for corrupted Digital files** September 2015  
Used Bayes-Minimax Detection to estimate thresholds for high order Weiner Filters in **MATLAB**
- **Revenue management system with dynamic pricing** May 2015  
Learnt demand using dynamic programming, Kalman Filters for oligopolistic airline markets
- **Adaptive Trajectory Optimization for Checkpoint Restricted UAVs** June 2015  
Designed online UAV guidance laws in windy conditions using Monte Carlo Simulations in **MATLAB**; performed dynamic optimization of design matrices for efficient tracking
- **Chess/Battleship/Searchable Calendar** September 2013  
Used Reinforcement Learning to develop intelligent applications in **C++** with 72% strategy prediction accuracy for machine operations. Appointed as TA for CS101 practicals.

## PUBLICATIONS

- [Upcoming] Pasupulety, VV et al. (2017), Deconstructing Adobe Photoshop Effects using Online Text Tutorials, [SIGCHI 2018](#)
- Pasupulety, VV; Goh, M, Air Freight Hub Competition with Airport Demand Enhancing Services, [ISL 2016, Taiwan](#). **Nominated for Best Paper (8.8/10)**. Journal paper under review at [IJLM](#)
- Pasupulety, VV; Goh, M, The Value Alliance: Is It Worth It?, [ICAED 2016, Thailand](#)

## AWARDS

- [Ventura 16](#) (International Business Plan Fest): Ideated an internet startup to connect waste & recycling firms in **Node.JS**, **C++** and **PHP**. Guided by mentors from Chennai Angels & GreenBuild Products. Awarded **Best Student Idea** by VCs from Sequoia Capital, Helion Partners, Kalaari Capital and Matrix Partners out of 368 entries over 3 rounds.
- [Pragyan16](#) (NITT International Techno-Management Fest): Finalist for developing a custom E-Signature site in **Laravel PHP/MySQL** for secure, efficient and timely document attestation.

## POSITIONS OF RESPONSIBILITY

- **Internship Representative** (ECE 2013-17), interface between company HR & students
- **Member**, [DataByte](#), NITT Data Science Society, guiding 30 juniors in data science and business analytics implementations in **Python/R** by handling company sponsored projects
- **Member**, [PROBE 2016 Content Team](#), NITT ECE All-India Symposium, which had a footfall of 1200 participants
- **Treasurer**, **DHRUVA** Science of Living Club; Organized philosophy and personality development guest lectures & camps (2014-17) for 180 colleges from all over India at 7 different cities.