VINEET VINAYAK PASUPULETY

vpasupulety3@gatech.edu | vineetvp95s21@gmail.com | +1-470-309-8375

linkedin.com/in/vineetvinayak | github.com/vvinayak

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 Visual Question Generation by generating scene graphs from images by iterative message parsing and using knowledge guided assistance to extract n-hop facts for questions

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

- **Visual Question Answering guided Image Captioning** November 2017
  Created word embeddings from pre-trained VQA models to act as context attention for an image captioning deep neural encoder-decoder framework in **PyTorch** (under Dr. Devi Parikh)

- **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 Tweetchup.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 All-India Symposium; 1200 participants, 8 sponsors
- **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.