Param Popat

(440) 454-4561
www.linkedin.com/in/parampopat/ pvp2109@columbia.edu

Education

- **Columbia University** — New York, NY
  M.S. in Computer Science (Machine Learning) [TA: Computer Vision (Fall 19)] — *Aug 2019 - Dec 2020*
- **Nirma University** — Ahmedabad, IN
  B. Tech in Computer Engineering (GPA: 9.12 / 10.0) — *Jul 2015 - May 2019*

Experience

- **Bosch (Robert Bosch Gmbh)** — Bangalore, IN
  Intern - Personalization and Secure AI — *Jan 2019 - May 2019*
  - Designed and engineered methods to protect AI systems incorporating Convolutional Neural Networks (CNN), LSTMs, and traditional ML techniques from vulnerabilities such Adversarial Attacks and Model Stealing Attacks. Patented a method of protection which opened a new business avenue for Bosch where they provide protection services for ML systems.
  - Developed Recommendation Engine for Hypermarket use-case incorporating active research in Generative Networks(GAN and VAE), and AutoEncoder based Recommendation Engines. Achieved a 70% hit rate in purchase of products from the items recommended to a user observing increased up-sale and cross-sale of products.
- **Canary Mail (Mailr Tech LLP)** — Rajkot, IN
  Intern - Machine Learning — *May 2018 - Jul 2018*
  - Developed an Ensemble of Statistical Cross-Correlation, Causal relationships and time-series machine learning models like LSTM to predict a mix of profiteering stocks with their movement 1 week ahead and auto-invest in them. Captured the delayed correlation effects between stocks and factors strongly affecting their movement. This system gave up to 48% returns over an investment period of 12 months.
  - Evaluated the seasonality in stocks where some escalate in specific periods like holidays and devised a GRU based Neural Network model to investigate prominent seasonality in all the National Stock Exchange, IN listed companies and output an ideal time to invest and divest for optimum profits. Structured an ensemble of seasonality and the effect of external factors on stock, this accelerated the year-over-year returns to 65%.
- **The SnapFactory** — Ahmedabad, IN
  Founder — *Jun 2016 - Jul 2019*
  - Developed a GAN based auto-editor specifically for indoor, crowded, and low-lit images, to enhance the visual appeal automatically. Achieved a 60% reduction in the post-processing time for photographs leading to fast delivery and increased client satisfaction.

Projects

- **Predicting the Next-Day Price Movements Through CNN using Technical Indicators.** Sep 2018
  Keywords : Time Series Data, CNN, Stock Market, Spatial Mapping
  - Leveraged the uniqueness of multi-sized filter maps over 2D mapping of of Stock's technical indicators, and achieved an avergae F1 Score of 0.80 in predicting next day's movement.
- **Real-Time Traffic Congestion System using Deep Learning** Mar 2018
  Keywords : CNN, Traffic Optimization, Tensorflow, Keras, Object Detection
  - Engineered an AI system incorporating CNN to detect and count cars, and reinforcement learning to optimize the green light time for a traffic light. Optimized traffic clearance time by 27% during peak hours.
- **Animal / Object Identification using Deep Learning on Raspberry Pi** Jul 2017
  Keywords : Tensorflow, Keras, OpenCV, Inception V3, CNN, Raspberry Pi
  - Developed a light-weight CNN inspired from Inception V3 which achieved a 79% top-5 accuracy at a processing speed of 20 FPS upon Deployment on Raspberry Pi.Published the work in Information and Communication Technology for Intelligent Systems, Springer, 2018.

Skills & Interests

- **Skills**: Python, Tensorflow, Keras, CNN, LSTM, GAN, AutoEncoder, C, Java.
  Interests: Photography (Professionally Certified), Teaching, White Water Rafting