Srinath Narayanan

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Education

- **University of California San Diego** — San Diego, USA
  M.S. in Electrical and Computer Engineering GPA: 3.72/4 — *Sep. 2016 – Jun. 2018*
  Specialization : Intelligent systems & Machine learning
- **Anna University** — Chennai, India
  B.E. in Electrical and Computer Engineering (Hons.); CGPA: 8.86/10 — *Aug. 2012 – July. 2016*

Experience

- **JP Morgan Chase** — New York City, NY
  Data Scientist, Risk and Fraud ML - CCB — *Aug 2018 - Present*
  - Building distributed GPU-trained deep learning models using PyTorch and PySpark that leverage on terabytes of existing transactional data in Hadoop clusters to build better risk and fraud models for check fraud.
  - Trained feature extractors using representation learning from unstructured data for better risk signals. Conceived, designed and implemented a high accuracy Parser framework based on Recurrent neural networks, and an efficient object localizer using novel variants of MobileNet.
  - Used multi-processing pipelines using broker processes to improve latency by 5x.
- **Becton Dickinson** — San Diego, CA
  Machine learning Engineer, Analytics team — *Summer 2017*
  - Led an intern team of 4 in building an information retrieval & optimization feature for pricing strategies, and forecasting demand-supply variations by following CRISP-DM principles in Python and R.
  - Conducted large-scale mining, parsing and analysis of nebulous data over a distributed network with 2 TB of data.
  - Satisfied business success criteria by achieving a 0.92 correlation in a 3-month window with 11% mean absolute percentage error (MAPE), by developing an ensemble of gradient boosting, time series LSTM and ARIMA models.

Programming Skills

- **Languages**: Python, R, C++, PySpark, SQL, Matlab
- **Technologies**: PyTorch, TensorFlow, Keras, NLTK, Gensim, Pandas, NetworkX-Gephi , SQL

Projects

- **Stacked Attention neural nets for Image Q&A**: Captioning was modeled with LSTM for scene classification and a RNN for semantic analysis in TensorFlow, achieving a 59% multi-class Hit5 accuracy. Implemented protobuf configurations for streamlining.
- **Published a journal paper**: Srinath et.al, "Example-Based Super-Resolution", Scientific World Journal, Article 8306342. Extracted similarity kernels using matrix valued operators for image super-resolution and image fusion and improved image quality by 2.1 dB and similarity by 22%.
- **Neighbour interaction using activity and ego networks**: Explored dynamic social networks by patterning user pairs and identifying temporal, geographical and ethnographic trends in New Orleans Facebook activity dataset.
- **Social media sentiment analysis with Twitter tokens for Cryptocurrency price prediction**: Screened tweets with Twitter API, TextBlob and performed sentiment analysis to identify trends in Ripple, Ethereum and Bitcoin with tokens. Used distributed models on Spark, increasing productivity by 25%
- **SFArchiver** Built C++ archiver library from scratch that serializes files as binary dumps. Supported compression, fast retrieval, searching, and built wrappers for Python, achieving 45% compression and 0.9 ms extraction time.
- **Weather pattern analysis using PySpark**: Analyzed US climate with data scraped using Beautiful Soup and Scrapy. Wrote Python scripts to perform distributed PCA and Eigen analysis, and visualized results using gmplot. Identified seasonal trends and global warming indicators with 78% signal correlation.

Coursework

- Probabilistic reasoning, Algorithms, Data structures, Neural nets and Deep learning, Recommender systems, Pattern Recognition, Web mining, Statistical learning & data analysis, Graph theory, Computer Vision and Speech Processing