Srinath Narayanan

San Diego, CA
+1-858-729-3826, srinath01n@gmail.com

www.srinath01n.com
github.com/vnnsrk
linkedin.com/in/srinathnarayanan

Education

- **University of California, San Diego** — San Diego, USA
  M.S. in Intelligent systems & Machine learning; GPA: 3.76/4 — *Sep. 2016 – Apr. 2018*
- **Anna University** — Chennai, India
  B.E. in Electrical and Computer Engineering (Hons.); CGPA: 8.86/10 — *Aug. 2012 – July. 2016*

Experience

- **Becton Dickinson** — San Diego, CA
  Machine learning Engineer, Analytics team — *Summer 2017*
  - Led an intern team of 4 in building an 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 information 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.
  - Scripted high-fidelity and coverage asynchronous multi-threaded field tests in Python to measure the performance and bandwidth of the Cloudera-Hadoop data science workbench with 4 data nodes and 6 mining nodes.
- **Indian Institute of Technology** — Chennai, India
  Software Engineering intern — *Summer 2016*
  - Built a real-time sparse implementation of the Katamari deep-learning ADAS algorithm using OpenCV and Python, that predicts pedestrian presence using CalTech 101 and KITTI datasets. Achieved a detection efficiency of 88%.
- **IPCV lab, SSN college** — Chennai, India
  Student researcher — *Summer 2015*
  - Published a journal paper (Article 8306342, Hindawi publications) on Image Super-Resolution using Matrix value operator. Extracted 2D similarity kernels and improved image quality by 2.1 dB and image similarity by 22%.

Programming Skills

- **Languages**: Python, R, C++, C, Spark, SQL, Java, Matlab, Hadoop - HDFS, MapReduce, Hive and HBase
- **Technologies**: TensorFlow, Keras, Pandas, NLTK, NetworkX-Gephi, OpenCV, Sk-learn, Scrapy, SQLServer

Projects

- **Stacked Attention deep neural nets for Image Q&A**: Captioning was modeled with a LSTM for scene classification and a RNN for semantic textual analysis with deep supervision in TensorFlow, achieving a 59% multi-class Hit-5 accuracy. Implemented protobuf for model configurations.
- **User interaction using activity networks**: Explored dynamic social networks by patterning user pairs and identifying temporal, geographical and ethnographic trends in New Orleans Facebook activity dataset.
- **Recommender system for Amazon products**: Developed latent factor models using 500,000 Amazon reviews using NLTK, Pattern and sklearn. Yielded MSE 1.13 with user and demographic/temporal biases. (Kaggle Rank: #8/120)
- **Sentiment analysis with Twitter tokens**: Screened tweets with Twitter API, TextBlob and performed sentiment analysis to identify political preferences with tokens. Used distributed models on Spark, increasing productivity by 25%
- **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.
- **Correlation of crimes in US vs socio-economic factors**: Implemented a statistical model using polynomial elastic regression. Tested the null hypothesis for top causes of violent crimes with 85% confidence intervals.

Coursework

- Probabilistic reasoning and searching, Algorithms and Data structures, Neural networks and Deep learning, Basic and Advanced Recommender systems, Pattern Recognition, Statistical analysis and web mining, Statistical learning and inference, Graph and network theory, Programming for Data Science, Computer Vision, Speech Processing, Parameter Estimation