Sahitya **Mantravadi**

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Education

Stanford University   *Stanford, CA*
M.S. IN COMPUTATIONAL AND MATHEMATICAL ENGINEERING   *Graduated: June 2019*
  GPA: 3.74
  Relevant Coursework: Machine Learning, Deep Learning, Numerical Linear Algebra, Principles of Software Engineering, Applied Statistics: Learning and Data Mining, Computer Vision, Optimization, Partial Differential Equations, Parallel Computing with OpenMP, MPI, and CUDA, Deep Generative Models, Algorithmic Game Theory, Mining Massive Datasets

Cornell University   *Ithaca, NY*
B.S. IN COMPUTER SCIENCE   *Graduated: May 2017*
  GPA: 3.58
  Jacobs Scholar and Jacobs Engineering Scholar, Deans List all semesters
  Head TA for Machine Learning (CS 4780) · TA for Discrete Structures (CS 2800) · TA for Engineering Probability & Statistics (ENGRD 2700)

Work & Research Experience

Microsoft   *Cambridge, MA*
DATA & APPLIED SCIENTIST   *July 2019 – Present*
  • Implemented personalization for Outlook SmartCompose in offline experimentation by constructing n-gram models per user and interpolating probabilities from user personalized n-gram models with global LSTM
  • Showed performance lift for a set 3265 Reddit users
  • Learned constant of interpolation from user characteristics instead of keeping interpolation constant fixed for all users
  • Created a train, validation, and test data set from public Reddit data to train and evaluate personalized and interpolated models; came up with an efficient sampling methodology while also avoiding time and user data leakage

Lawrence Livermore National Lab   *Livermore, CA*
DATA SCIENCE SUMMER SCHOLAR - MACHINE LEARNING GROUP, COMPUTATIONAL ENGINEERING DIVISION   *June 2018 – September 2018*
  • Researched computer vision techniques for video data to enable object-centric scene understanding and representation learning
  • Combined optical flow with a deep recurrent attention model for object tracking in TensorFlow
  • Developed multi-modal models for text, audio, image, and video modalities to advance nuclear non-proliferation efforts
  • Created an image classification model in PyTorch to monitor CO_2 microcapsules in transport for carbon capture and storage

Stanford Department of Statistics
& Department of Biomedical Data Science   *Stanford, CA*
RESEARCH ASSISTANT, JOINT WORK WITH PROFESSOR CHIARA SABATTI AND PROFESSOR EMMANUEL CANDES   *January 2018 - June 2018*
  • Performed quality control and exploratory analysis on UK Biobank dataset (genotypes for 500,000 individuals)
  • Implemented parallelized ADMM (alternating direction method of multipliers for convex optimization problems) in MPI and C for LASSO on large sparse datasets for genome-wide association studies

Goldman Sachs   *New York, NY*
SECURITIES STRATS SUMMER ASSOCIATE   *June 2017 – August 2017*
SECURITIES STRATS SUMMER ANALYST   *June 2016 – August 2016*
  • Program Trading Strats: Researched ETF composition methods and differences in reported ETF holdings versus creation/redemption baskets to propose more effective hedging strategies for large-volume trades
  • Commodities Trading Strats: Analyzed and optimized firm positions in electricity and power markets based on a shift factor model; Designed regression-based models to predict supply and demand of crude oil, gasoline, and distillates from empirical shipment data

Cornell Center for Astrophysics and Planetary Science   *Ithaca, NY*
RESEARCH ASSISTANT WITH PROFESSOR TERRY HERTER   *September 2014 - May 2017*
  • Performed statistical analysis, and computational image processing on infrared images of the center of the Milky Way Galaxy to gain further information about star formation and dust gathering in the area using Matlab, Python, and Mathematica
  • Presented research, methods, and findings at the annual Cornell Department of Astronomy Undergraduate Research Forum

Skills & Interests

Mathematical Modeling   Applied Statistics, Numerical Linear Algebra, Partial Differential Equations, Optimization, Machine Learning
Programming Languages & Libraries   Python, PyTorch, Tensorflow, C++, C, Java, Matlab, OCaml, R, SQL
Parallel & Distributed Computing   OpenMP, MPI, CUDA, Spark, Hadoop, MapReduce
Interests   Electric and acoustic guitar · Yoga · Wines · Astronomy · Reading