

Vikram Mullachery

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Skills

Machine Learning	Deep Learning, Reinforcement Learning: Keras, PyTorch, Tensorflow, scikit-learn
Data Science	Statistical models, Causal Inference, PCA, KNN
Programming	Python, Java, C/C++, JavaScript. Scripting tools: bash, perl, sed, Awk
Web Development	AngularJS, nodejs, jQuery, JSP, HTML, CSS
Database	SQL (MSSQL, Oracle)

Research and Work Experience

Fellow, Insight Artificial Intelligence Program

June 2019 - Present

- In collaboration with maritime startup Nautilus Labs, created an application for optimal (fuel efficient) shipping routes for international shipping vessels. Utilized Policy Gradient Deep Reinforcement learning method to compute an optimal trajectory
- Delivered Python package, and an OpenAI Gym environment, that could reduce fuel consumption by 5%, as compared to historical voyages

Innovation Fellow, Student, NYU Courant Institute of Mathematical Sciences

2014 - Present

- Developed Visual Neural Network Builder to assist rapid prototyping of computer vision deep learning models (using Python, AngularJS, HTML/CSS) as a part of Innovation Fellowship work
- Created studies and reviews of causal inference to assist students and researchers. Implemented Bayesian Neural Network based classification models for exploring contemporary Deep learning techniques and inference mechanisms
- Led development of Image and Video Captioning application with Deep Learning pipeline composed of Convolutional and Recurrent Neural Nets (LSTM) to showcase contemporary techniques
- Engineered solutions for statistical Natural Language Processing (NLP) with Hidden Markov Models and trained embeddings with Skipgrams for course research work

Computer Scientist/Programmer, NSECURE LLC (Owner)

2007 - Present

- Published a technical book for Developers and Architects on Single Sign-On (SiteMinder FAQ)
- In order to assist corporate user single sign-on, developed Facebook-SSO Connector (nsecurellc.com/Products.html). Trained over 200 customers on CA SiteMinder Single sign-on

Director, Security Architect/Developer, CA, Inc

2000 - 2006

- Won CA Spotlight industry award as a recognized expert in Single Sign-On solutions. Authored numerous case studies and white papers for CA Single Sign-On solutions
- Collaborative work with PreSales led to numerous multi-million dollar Fortune 500 customer wins

Products and Publications

Introduction to Causal Analysis	github.com/mullachv/papers
Policy Xpress Visualizer, 2019	nsecurellc.com/Products.html
Bayesian Deep Learning, 2017	arxiv.org/abs/1801.07710v2
Neural Network Builder, 2017	mullachv.github.io/nnbuilder
Facebook-SiteMinder Connector, 2012	nsecurellc.com/Products.html
SiteMinder FAQ by Bookstand publishing, 2009	amazon.com/SiteMinder-FAQ-Vikram-Mullachery

Education

Masters candidate in Mathematics, Courant Institute of Mathematical Sciences, NYU	2021
Masters in Computer Science, Courant Institute of Mathematical Sciences, NYU	2017
Bachelor of Engineering in Electronics & Communication Engineering, NIT, Surathkal, India	1995