

Sharath Ramkumar

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EDUCATION

- **University of Massachusetts Amherst** Amherst, MA
Bachelor of Science, Computer Science / Applied Mathematics (Double Major) Sep. 2016 – current
- **T. R. Robinson High School** Tampa, FL
International Baccalaureate Diploma; GPA: 3.7 (Salutatorian) Aug. 2012 – May. 2016

EXPERIENCE

- **Biologically Inspired Neural and Dynamical Systems Lab** Amherst, MA
Research Assistant June 2018 - current
 - **Izhikevich Demo:** Wrote demo for Izhikevich Neurons using Bindsnet
 - **CIFAR10:** Worked on a convolutional architecture for a spiking neural network using Bindsnet and PyTorch
 - **Numenta HTM:** Researched HTM theory and considered domain applications for bench-marking Bindsnet performance on time-series data
- **Research Center for Collaborative Adaptive Sensing of the Atmosphere** Amherst, MA
Research Assistant March 2017 - May 2018
 - **Hadley Deployment:** Data collection deployment at the Hadley Horse Farm in Amherst, MA. Wrote time-series data collection software.
 - **Vermont Deployment:** Data collection deployment at NRG Systems in Hinesburg, VT. Contributed to time-series data collection software.
- **Tampa Bay History Center** Tampa, FL
Volunteer June 2015 - November 2015
 - **Citrus Park:** Researched the history of the Citrus Park area and built a website to showcase findings for the History Center.

TECHNICAL SKILLS

- **Languages:** Python, Go, Java, C/C++, Javascript
- **Technologies:** MongoDB, Jupyter, React, Node.js

PROJECTS

- **MCMC-decipher:** Final Project for Mathematical Modeling course at UMass. Wrote a substitution cipher solver using Python with Jupyter Notebook.
- **moon:** Data analysis software for predicting crypto-currency price changes. Integrated with the lambo API. Written in Python using scipy.
- **OpenTutor:** iOS and Android app that connects students with tutors who have taken the same courses. Won 2nd Place at HackAmherst 2018. Developed the backend using Go and MongoDB.
- **sudoku:** Extension of an assignment for Artificial Intelligence course at UMass. Solves Sudoku boards with the backtracking algorithm and the MRV heuristic.
- **lambo:** Aggregated market data visualization library for crypto-currencies. Fetches data from CoinMarketCap for future analysis. Developed using Go and MongoDB.
- **n-queens:** Extension of an assignment for Artificial Intelligence course at UMass. Solves the n-queens problem using a genetic algorithm.
- **SVD-compress:** Final Project for Linear Algebra with Applications course at UMass. Wrote an image compression analysis script in Python using numpy and Pillow.

PROFESSIONAL DEVELOPMENT

- **Machine Learning:** Machine Learning Specialization at Coursera offered by University of Washington
- **Advanced Machine Learning:** Advanced Machine Learning Specialization at Coursera offered by National Research University Higher School of Economics

PUBLICATIONS

- D. Pepyne, M. Zink, S. Ramkumar, L. Emerson, and C. Gao. *A Machine Learning System For Pressure Based Wind-Profiling - Proof-of-Concept Results*