Stephen Gung

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Education

University at Buffalo - M.S. Computer Science   December 2015
Machine Learning, Data Analytics, Statistical Inference, Bayesian Networks

Stony Brook University - B.S. Computer Science   May 2013

Experience*

UB Data Science and Machine Learning Research Group   Feb 2015 – Dec 2015
Researcher   *www.cse.buffalo.edu/ubds*

- Researched under Dr. Varun Chandola in the University at Buffalo Computer Science department.
- Computed regression lines and a K-means clustering algorithm in order to analyze the similarities and differences of chronic kidney disease progression between 50,000+ patients.
- Contributed learnings on results of ML when applied to the field of medicine in weekly meetings.

Computer Science Engineering 219   Feb 2013 – May 2013
Teaching Assistant

- Led 50+ undergraduate students in weekly sessions that involved coding (including Java, C, and MIPS), homework, assignments, and term project.
- Taught personal office hours for 200+ hours, going above and beyond by investing 3x the average expected teaching time expected of a TA.
- Covered essential fundamental concepts including OOP, inheritance, and GUIs.

Projects

Pokémon Genetics Probability Calculator   September 2017 – December 2017
Java, Java Swing

- Developed a combinations algorithm to compute outcomes when breeding 2 Pokémon in a Pokémon game, handling 14+ different parameters that influence the offspring's resulting stats.
- Coded a program that is capable of efficiently processing and outputting up to 131+ million possible combinations for every possible scenario.
- Developed a specialized probability equation that predicts the chances of the most likely results.

Forensic Analysis with PGMs   May 2015
Matlab

- Analyzed a record of 6000+ handwritten samples from elementary school students to determine if the style of a handwritten sample is natural or faked.
- Programmed a Bayesian Network algorithm to determine the conditional dependencies between handwriting features and a Gibbs Sampling algorithm to find the ideal number of samplings.

Face Recognition & Detection   May 2014
Matlab

- Computed Fisherface dimension reduction algorithms on 165 images in order to classify them using Nearest Neighbor, resulting in an average 20% lower misclassification rate than an Eigenface dimension reduction benchmark.
- Implemented a down-sampling technique, reducing computational complexity by more than half.

Steve's 2D World   May 2012
C++, Lua, DirectX

- Created a 2D side-scrolling platformer game with AI enemies and dynamically generated levels.
- Developed different types of bot intelligence for gameplay variety and handled collision detection mechanics without the use of a physics engine.

Skills & Languages

Java, C/C++, Matlab, HTML, CSS, JavaScript, JSP, XML, GIT

*To be completely transparent, I took a sabbatical from 2015-2017 to resolve issues of abuse in my family, but I am now fully ready to continue my career in the field of software engineering.