

Joshua Downes

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EDUCATION

STONY BROOK UNIVERSITY | BSc COMPUTER SCIENCE & MATHEMATICS

Dec 2016 | Stony Brook, NY

Tau Beta Pi Engineering Honor Society

EXPERIENCE

MORGAN STANLEY | TECHNOLOGY SUMMER ANALYST

May 2016 – Aug 2016 | New York, NY

- Parallelized C++ unit testing using container-management platform – project in Python, C++
- Reduced unit testing time by potential orders of magnitude & improved testing scalability
- Integrated parallelization project into in-house testing API to apply project firm-wide

EDUWARE | PART TIME WEB DEVELOPER

Oct 2015 – May 2016 | Stony Brook, NY

- Refactored SQL database & full website to support specific class start/end dates rather than general semesters
- Developed testwizard.com teaching-resource tools – using C#, JQuery, LINQ (SQL Queries), ASP.NET Web Forms

GENERAL ELECTRIC TRANSPORTATION | SOFTWARE ENGINEERING INTERN

May 2015 – Aug 2015

- Developed & improved pre-existing tool for remote software-loading to testing lab – project in PHP, C++, HTML/CSS
- Wrote scripts for locomotive-testing automation

STONY BROOK UNIVERSITY | TEACHING ASSISTANT, STUDENT TUTOR

Jan 2014 – May 2015

- TA'd for CSE114 (Intro to Java), covering object oriented principles in Java
- Tutored for PHY131 (Classical Physics I), covering mechanics, wave motion, kinetic theory, and thermodynamics

PROJECTS

XV6 MODIFICATIONS Spring 2016

Added features to Xv6 Unix-like operating system, including system calls, copy-on-write fork, lottery scheduling policy, and file system optimizations. All work in C.

LSTM BIGRAM PREDICTOR Spring 2016

Built model to write English sentences a bigram at a time. Using the Text8 Dataset, first mapped bigrams to a vector through a word2vec trained embedding, used the mapped-bigrams to train an LSTM network used for prediction. Python & Tensorflow.

SMART CHATBOT Spring 2016

Experimented with Chatbot creation, implementing machine-learning algorithms (kNN, naive bayes, softmax regression) to determine appropriate responses. Built using Python, with libraries Numpy, SK-learn, and selenium to source data.

VETERAN LEGISLATURE TRACKER Winter 2015

Built an Android application which allows veterans to view recent legislature relevant to disabilities, retirement, politics, etc. Built on Microsoft Azure using Java & MySQL DB. Legislature queries made using FiscalNote API.

LANGUAGES

Adept

Java • Python • C++

Novice

SQL • Javascript • Perl • \LaTeX

Misc

Android • Linux • git • vim

CLUBS

Stony Brook Machine Learning Team

Stony Brook Computing Society

SELECT COURSES

Software Engineering • Operating Systems • Systems Architecture • Algorithms •
Networking • Machine Learning (Coursera) • Deep Learning in Tensorflow (Udacity)