

Joshua Loehr

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EDUCATION

Western Washington University, Bellingham, WA

B.S. Computer Science – Expected June 2018
B.S. Mathematics – Expected June 2018
Current GPA: 3.86

PROJECTS

N-gram Language Model Sentence Generation (github.com/joshualoehr/ngram-language-model)

Python implementation of an N-gram language model with Laplace smoothing. Generates random sentences in the style of the corpus on which the model is trained.

Neural Network Mushroom Classification (github.com/joshualoehr/neural-network-from-scratch)

A simple neural network built from scratch in C++, trained to classify mushrooms as either poisonous or edible based on 23 nominal characteristics with >99% test accuracy.

JDBC Student Report (github.com/joshualoehr/student-report)

Small Java application for querying a MySQL database using JDBC, calling a custom stored procedure, and outputting a formatted result of a student's transcript.

EXPERIENCE

Deep Learning Research Assistant

September 2017 – Present

Western Washington University – Bellingham, WA

- Exploring unsupervised deep learning methods for insider threat detection using large data streams.
- Creating and working with existing BASH/Python scripts to facilitate data preprocessing, and TensorFlow for model training and evaluation.

Software Development Intern

February 2017 – September 2017

SparkCognition – Austin, TX

- Scripted a web scraper to download hundreds of thousands of sample Android APK files for use in malware classifier training.
- Created a pipeline of BASH/Python scripts to extract features from samples and train new classifiers for detecting malware, using Spark on YARN in a distributed Google Cloud cluster.
- Decreased runtime by ~66%, and allowed for training on the full 65 TB training set.

Web Application Developer

May 2016 – February 2017

ResTek (WWU University Residences) – Bellingham, WA

- Collaborated on an Agile team of developers to maintain and expand a multi-project Django application comprising the entirety of the university's housing website
- Spurred the initiative to add unit and functional tests to the existing legacy code base, reducing technical debt and speeding up new development

Software Engineering Intern

July 2015 – December 2015

Spredfast – Austin, TX

- Developed a new internal tool using NodeJS to automatically and regularly prioritize bug tickets in JIRA using customer details in Salesforce.
- Created a NodeJS library to abstract Spredfast's customer-facing RESTful API, which also now serves as API documentation for 3rd party developers.

EXTRACURRICULAR ACTIVITIES

WWU Rock Climbing Team (Fall 2015 – Present) | Team Captain (Fall 2017 – Present)
Webmaster, WWU Association of Computing and Machinery (Fall 2014 – Fall 2016)