DAVID ZHAO

SOFTWARE ENGINEER

Using machine learning to make our lives more productive and impactful

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EDUCATION

University of Virginia, Charlottesville, VA — Aug 2016 - May 2020
Double major B.S. Computer Science and Statistics, Overall GPA - 3.90, Major GPA - 4.00
Machine Learning, Computer Architecture, Theory of Computation, Regression Analysis, Math Statistics
Program & Data Rep., Linear Algebra, Probability, Discrete Math, Multivariable Calculus

Thomas Jefferson HSST, Alexandria, VA - *Web/Mobile App Development Senior Lab* — Sep 2012 - Jun 2016

WORK

Innovative Defense Technologies, *Software Engineer Intern* — May 2017 - Aug 2017
Developed a socket-based chat plugin from scratch as internal & maintainable alternative — Typescript, JS, Java
Wrote automated unit tests, learned BackboneJS, coded REST backends, wrote build scripts — Typescript, JS, Java, Bash

US Army Corps of Engineers, *Research Scientist Intern* — Jun 2015 - Aug 2015
Developed algorithms to reduce setup and querying computations of a K-nearest neighbors on a spatial index — Python

TJ Middle School Tech Institute, *Teaching Assistant* — Jul 2014 - Aug 2014
Taught 120 middle school students basic app development in workshop and one-on-one settings

STEMbasssador Math Tutoring Program, *Volunteer/Tutor* — Feb 2013 - Jun 2016

ACTIVITIES

HackUVA, *Treasurer, Organizer, Mentor, Participant* — Mar 2014 - Present
Treasurer for HackUVA '18. Organized HackUVA '17 personally contacted 65+ sponsors and arranged all caterers
Participated in 9 hackathons (won at 1), mentored 2 middle school hackathons — Java, JS, Node, PHP

Cavalier Symphony Orchestra, *Chief Technology Officer, Principal Trumpet* — Sep 2016 - Present
Developed website using various javascript libraries and streamlined technology within the club — JS, PHP

Natural Language Processing (NLP) Research Group — February 2017 - May 2017
Explored NLP and deep learning which entailed weekly meetings discussing current research
Took online courses in Machine Learning and tried different python libraries — NumPY, Tensorflow

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PROJECTS

Optical Music Recognition — Aug 2017 - Present
Implementing convolutional neural networks to convert sheet music into an editable format — Python

Question-Answering Bot Generator from Website FAQs — Sep 2017
Program a web scraper and neural network to identify FAQ pages then leverage Microsoft Cognitive — Python, Java
Services to answer questions inputted via an Android application, placed 1st in 2 categories and 2nd in a third

Basic Recurrent Neural Network — Jul 2017
Created a recurrent neural network that generates text in the prose of the training text — Python, Theano

Neural Network in Google Sheets — Jul 2017
Implemented and trained a neural network with programmable hyperparameters in Google Sheets

Anacostia National Park App — Jul 2015 - Jul 2016
Created a geo-narrative audio tour guide app in coordination with an Anacostia National Park representative — Java

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SKILLS

Languages — **Python (3yrs)**, **Javascript (8yrs)**, **Java (4yrs)**, **C++ (1yr)**, HTML, CSS, Typescript, Bash, PHP
Libraries — JQuery, NumPY, Bootstrap, Underscore, Backbone
Software and Tools — Git Bash, AWS, Selenium, VS Code, Linux, Powershell, Android Studio, Unity 3D