ANDREW J. McGEHEE

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EDUCATION

Bachelor of Software Engineering / Auburn University
Aug. 2017 - Expected Graduation: Dec. 2020
Cumulative GPA: 4.0/4.0

EXPERIENCE

Auburn University

Undergraduate Research Assistant / *May 2018 - Present*

- Developed an open source 3D protein folding tool (PolyFold) in **Java** that allows users to visualize and intuitively understand various **machine learning** techniques when applied to folding protein structures (a known **NP Hard** problem)
- Implemented **gradient based optimizations** and **Monte Carlo optimizations** which fold 3D protein structures in real time

Google

Software Engineer Intern / *May 2019 - Aug. 2019*

- Integrated black-box hyper-parameter optimization tools into an evaluation pipeline in **C++** for **deep learning** computer vision models.
- Increased F1 score by 1.5% in proof of concept
- Wrote hypothesis testing tools in **Python** to show statistical convergence of a set of hyper-parameter configurations
- Wrote visualization tools in **Python** to demonstrate the progress and relative success of the evaluation pipeline during the auto-tuning process

National Water Center Comet Cooperative Proposal

Software Consultant / *Aug. 2017 - May 2018*

- Designed and built an efficient parallelized pipeline for interpolating the stage of ~ 2.7 million water catchments and filtering geotiff rasters for state of the art flood modeling in **Python**

EXTRA CURRICULAR

Auburn A.I. Club / Founder, President

- Devised & taught 12 week curriculum to ~50 members weekly, covering topics including: **regression, classification, clustering, neural networks,** etc.

Auburn ACM Competitive Programming Team / President, Co-coach

- Taught common **algorithms** and **data structures** biweekly to ~20 members
- Competed and placed **3rd out of 86** teams at the **2019 ICPC Southeastern Regional**

SKILLS

Programming
Python, C++ / C, Java

AI / Machine Learning & Data Science
TensorFlow, Keras, Numpy, Scipy, Pandas, R

Foreign Language
German (B1), Russian (B1)