Alan Zheng

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SUMMARY

Undergraduate student at the University of Virginia with extensive experience in machine learning. Has a passion for algorithms and AI.

EDUCATION

UNIVERSITY OF VIRGINIA
Charlottesville, VA
BS in Computer Science
Expected May 2022
Cum. GPA: 3.933

THOMAS JEFFERSON HSST
Alexandria, VA
Advanced Studies Diploma
Grad. Jun 2019
Cum. GPA: 4.5
SAT: 1600

COURSEWORK

Data Structures
Discrete Mathematics
Theory of Computation
Intro to AI and Machine Learning
Multivariable Calculus
Linear Algebra

SKILLS

PROGRAMMING
Over 5000 lines:
Java • JavaScript • Python • LaTeX • C++
Over 1000 lines:
C • HTML+CSS • MATLAB • Git • Bash
Familiar:
NodeJS • C# • JQuery • Assembly

LIBRARIES
TensorFlow • Keras • OpenCV
ROS • PyTorch • and more ...

LINKS

Github:// **arxk9**
LinkedIn:// **arxk9**
Research:// **swarm.sites.tjhsst.edu**

INTERESTS

Competitive Team Rowing
Urban Dance
Guitar/Cello/Piano
Texas Hold'em Poker

WORK AND LEADERSHIP EXPERIENCE

TJHSST MACHINE LEARNING | Captain
Sep 2016 – Jun 2019 | Alexandria, VA

- Wrote and taught lectures to 60+ members.
- Maintained club website through Github repository.
- Coordinated with partners like Intel Nervana AI Academy, Yext, and the John Hopkins Radiology AI Lab for funding and internship opportunities.

GMU LEARNING AGENTS CENTER | Research Assistant
Jun 2018 – Aug 2018 | Fairfax, VA

- Worked on an artificial intelligence system for evidence-based detection of Advanced Persistent Threats.
- Designed a new interface and improved the agent's decision logic in Java.

YOUTH BUILDING BRIDGES | Student Leader
Mar 2017 – Jul 2017 | Zhangye in Gan'su, China

- Traveled to a rural, poverty-stricken village in China, teaching and leading the local students in various subjects, including English, science, and technology.

PROJECTS

CURRENT PROJECT: TEXTATTACK | QData Lab at UVA

- A Python package allowing users to replicate adversarial attacks on popular natural language processing models such as BERT. It would support multiple attack methods that would generate word perturbations and display them meaningfully for the user.
- Currently in the early stages, working on greedy selection attacks and their visualization in PyTorch

DRONE SWARM RESEARCH | Partnered Research

- Year long research project developing **reinforcement learning** model to control a swarm of rescue drones to navigate buildings in real time.
- Project ended with **research paper and live demonstration** of 10 drones swarming around obstacles in lab environment (both available on the Research:// website).
- Vicon, who loaned us equipment, wrote a blog on our research

MIT BATTLECODE 2019 | Group Programming Competition

- Created a **game agent** in JavaScript to play a real-time strategy game against other agents created by other competitors.
- Competing in a high school group of 3, our team (plzgoeasy) fought to the top 7 out of 600+ college and high school teams in the Sprint Tournament and top 25 in the Qualifying Tournament.

BUDGET BUDDY | Hackathon Project

- A smart messenger chatbot built with Python, Flask, HTML, and several other tools to help users manage budgets through more approachable and less rigid texting interactions through **natural language processing** .

MOVIES4U | Independent Proejct

- A simple **recommender system** on the MovieLens datasets using matrix factorization by singular value decomposition.