Tyler Giallanza

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Computer Science student with a wide array of project and research experience. Interested in the intersection of machine learning and cybersecurity.

TECHNICAL EXPERTISE

Primary Languages: Python, Java, C++
Other Languages: R, JavaScript, Swift, Objective-C
Tools/Environments: Git, Unix/Linux (Bash), Make, Vim

PROFESSIONAL EXPERIENCE

DARWIN DEASON INSTITUTE FOR CYBERSECURITY **Dallas, TX**
Paid Research Assistant *August 2017 - Present*
- Cybersecurity research for industry and government clients
- Designing and implementing Deep Learning models for audio signal processing
- Developing algorithms to optimize traversals of Multi-Valued Decision Diagrams

COLORADO MCS CAMP **Greenwood Village, CO**
Co-founder and Instructor *June 2016 - Present*
- Founded mathematics and computer science summer camp for middle school students
- Instructed over 75 students in Python and Java for computer science and math competitions

FREELANCE SOFTWARE DEVELOPMENT AND TUTORING **Greenwood Village, CO**
Freelance Developer *January 2013 - Present*
- Designed eCommerce website for local clothing business
- Built and deployed Arduino/Android anti-texting-and-driving system that detects phone usage by the driver and triggers the car alarm
- Created iOS and Android application that aids in epilepsy diagnosis by recommending continuous electroencephalograph scanning based on patients' symptoms
- Tutored various students in Java and Data Structures computer science courses

NORTHROP GRUMMAN **Aurora, CO**
Summer Software Development Intern *June 2015 – August 2016*
- Worked in an Agile software development team on research and development projects for two years
- Developed OpenCV-based computer vision system in Python to keep a live count of humans entering/exiting a building from aerial video footage
- Created a JavaScript-based web application to manage internal employee training and on-boarding

RESEARCH/PROJECT EXPERIENCE

ASSOCIATION RULES CLASSIFICATION **Dallas, TX**
January 2018 - Present
- Developing low-latency, high-performance classification system based on association rules

ARRIVAL TIME AUTHENTICATION **Dallas, TX**
January 2018 - Present
- Developed security protocol for sender authentication in networks of resource-constrained IoT devices
- Submitted to *IEEE IoT Journal Special Issue on Security and Forensics of Internet-of-Things* (awaiting response)

ASSOCIATION RULES VISUALIZATION **Dallas, TX**
August 2017 - January 2018
- Contributed to package for R language: ArulesViz
- 10,000 unique downloads per month

SCHEDULING CONFLICT REDUCTION AND OPTIMIZATION **Greenwood Village, CO**
February 2014 – March 2016
- Developed algorithm to optimize a school's class schedule, reducing teacher, student, and room conflicts
- Implemented and deployed algorithm in Java at two local high schools
- Achieved hundredfold time reduction and tenfold conflict reduction vs manual method of class scheduling

SMS-BASED INFORMATION QUERY TOOL **Greenwood Village, CO**
January 2015- May 2015
- Developed system that texts the user when course grades are entered into online grading system

- Parsed data from online grading system using Python's http libraries

EDUCATION

SOUTHERN METHODIST UNIVERSITY **Dallas, TX**

BS Computer Science

- **GPA: 4.0**
- **President's Scholar** – full ride merit scholarship award given to top 20 students
- Majors: Computer Science, Chinese (Language)
- Completed a number of graduate-level courses in computer science (including Machine Learning and Algorithms)
- Graduation Date: May 2020

CHERRY CREEK HIGH SCHOOL **Greenwood Village, CO**

- GPA: 3.98 Unweighted, 4.7 Weighted; ACT: 35 Composite
- Courses taken in Computer Science and Mathematics for college credit