Markian V. Hromiak

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EDUCATION

Georgia Institute of Technology, Atlanta, GA
- Bachelor of Science in Computer Science — December 2020
- Georgia Tech Provost Scholar — Cumulative GPA 3.42

PROJECTS

Wasteland Sorting Algorithm   **August 2019 – September 2020**
- Drafted and tested an original sorting algorithm against standard sorts, showing superior runtime for large data
- Documented complexity analysis and design procedure in an open source Git repository free for public use
- Submitted to arXiv for undergraduate publication
- Maintainer for an open-source package on PyPI

Tam's Variable Focus Glasses   **August 2019 – Present**
- Optimized and designed a blueprint for corrective eyewear using water as a focal medium
- Rapidly innovated on prototypes through feedback from market surveys
- Currently filing a patent claim

DrivingForce App   **January 2018**
- Designed a hackathon web app to host volunteer organization work opportunities
- Created HTML/CSS interface with Angular5 linked to a Google Firebase database

WORK EXPERIENCE

TITANS Software Engineering Intern – Sandia National Laboratories   **May 2020 – August 2020**
- Designed an application-layer noisy channel module to empirically compare forward error correction implementations
- Constructed a pipeline algorithm for reliable file transfer over an unreliable simplex channel
- Optimized algorithm performance through test-driven development and memory profiling

Teaching Assistant – Georgia Institute of Technology   **August 2019 – December 2019**
- Educated students on object-centered software design principles and version control
- Guided students through application construction following GRASP and SOLID principles
- Taught a seminar on RESTful APIs and HTTP/web service applications

Software Engineering Intern – Edward Jones   **May 2019 – August 2019**
- Constructed RESTful, microservice-centric, front-end APIs for an AGILE, multi-platform UI enterprise application
- Collaborated in daily scrum meetings and AGILE training/research to aid in a firm-wide Waterfall-to-AGILE transition

PUBLICATIONS

A New Charter of Ethics and Rights of Artificial Consciousness in a Human World
- Published as arXiv:2010.12019 on arXiv. Primary author, 8/12/2020

Wasteland Sort: Complexity and Analysis of an Integer Sorting Algorithm
- Submitted to arXiv for publication 8/12/2020

SKILLS

Computer Languages and Libraries:
- Proficient in Python, C/C++, Java
- Experience with Bash, SQL, Angular9, Python Flask, Springboot

Software and IDEs Used:
- Eclipse, Android Studio, IntelliJ, Spyder, LaTeX, VSCode

RELEVANT COURSEWORK
- Intro to AI, Design & Analysis of Algorithms, Software Engineering, Operating Systems, Robotics & Path Planning, Processor Design, Automata and Complexity

AWARDS AND HONORS
- GT Eta Kappa Nu IEEE Honor Society member
- Georgia Tech Inventure Prize Competition Semi-Finalist
- GT 'Make a Difference' Hackathon 2018 – Runner-up
- University Physics Competition – silver, bronze medals