Matthew L. Trang

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EDUCATION

B.S. in Computer Engineering **Expected Grad May 2022**
Virginia Tech, Blacksburg, VA
GPA: 3.97, Honors College

Patriot High School, Nokesville, VA **Sep 2013 – June 2018**
GPA: 4.909/4.0, Summa Cum Laude Class Rank: 1st out of 706 ACT: 35/36 SAT: 1520/1600

RELEVANT EXPERIENCES

Summer Co-op, Moog Inc. **May 2019 – Present**
- Developed Computer Vision on FPGAs to be used in future drone and robotics projects
- Created multiple CV algorithms, including a 50 FPS Harris Corner Detector that runs on the FPGA fabric

Software Integration Team Member, Victor Tango AutoDrive, Virginia Tech **Nov 2018 – Present**
- Compete in the SAE International AutoDrive Challenge to integrate autonomous control into a car
- Integrate sensors with communications network to control vehicle steering, braking, torque, and gear

Outreach Head, InVenTs Rocketry, Virginia Tech **Sep 2018 – Present**
- Compete in NASA's Space Grant Midwest High-Power Rocket Competition to build supersonic rockets
- Plan community educational activities at local elementary schools to spread STEM interest

Design Lead, Team Juvo Source America, Virginia Tech **Sep 2018 – Present**
- Winner of the Source America Disability in the Workplace Competition to assist a disabled individual
- Designed and built a wearable mouse to assist an individual with restricted arm movement

Research Assistant, GMU - Institute for Advanced Biomedical Research **July 2018 – Sep 2018**
- Constructed testing device for stretch and flex sensor calibration using Arduino Uno microcontroller
- Tested human walking patterns using stretch and flex sensors to explore effects of various exercises

Intern, Scriyb LLC, Virginia Serious Games Institute **June 2017 – Aug 2018**
- Aided project management of a web-learning company to develop innovative learning methodologies
- Designed visual system diagrams to represent algorithms and processes

PATENTS

Patent No. 62/717,211 **August 2018**
- "Blockchain System Storage and Block Encryption for Securing Learning Semantic and Episodic Events". Provisional Patent. Status: Filed

Patent No. 62/576,361 **October 2017**
- "Non-Invasive Wearable Biomechanical and Physiology Monitor for Injury Prevention and Rehabilitation". Provisional Patent. Status: Filed. Utility Patent Filed: October 24th, 2018

HONORS & AWARDS

- **1st Place, SourceAmerica Design Challenge** **June 2019**
- **Pamplin Scholar Award,** Virginia Tech **March 2019**
- **VEX Robotics World Championship**, 8th place in division **April 2018**
- **Conrad Challenge Summit Finalist** **February 2018**
- **National Merit Finalist** **February 2018**
- **Congressional App Challenge Winner**, VA-11 Rep. Gerald E. Connolly **December 2017**

COMPUTER SKILLS

- Java
- MATLAB
- Linux/Ubuntu
- C/C++
- Arduino
- Xilinx SDSoC/Vivado
- Python
- AutoCAD
- QNX