Nathan Cheek

331988 Georgia Tech Station, Atlanta GA 30332 ● Email: ncheek@gatech.edu

Education

Georgia Institute of Technology – M.S. Electrical and Computer Engineering *2019-2020*

4.0 GPA | Technical Interest Areas: "Bioengineering" and "VLSI Systems and Digital Design"

Georgia Institute of Technology – B.S. Computer Science *2014-2019*

3.75 GPA | Highest Honors | National Merit Scholar | Threads: "Devices" and "Information Internetworks"

Skills

Embedded Systems Design – Circuit board design/layout/assembly and mechanical and electrical prototyping. Communication (SPI, UART, I2C, CAN), wire harness construction, high voltage isolation, circuit waterproofing, radiation hardening, battery management, and environmental testing (random vibration, thermal vacuum, TID).
Software Development – C++, MATLAB, Python, and web dev. Git version control. Some experience with Java.
Computing Infrastructure Management – Architecture and administration of Linux systems and networks.
Logistics and Project Management – Schedule development, risk management and mitigation, team architecture, task management, supplier negotiation, order management and expediting, budget preparation and management.

Projects

HyTech Racing at Georgia Tech - Team President - May 2017 – May 2019 *(Past: Electrical Systems Lead 2015-2017)*

- Managed project schedule of a 100-member engineering team and developed an annual budget >$70,000
- Managed logistics and solved supply chain issues for mechanical and electrical team component sourcing
- Developed battery management system hardware and software for custom 300V $LiCoO_2$ pack using LTC6804
- Designed and implemented high voltage drivetrain control systems on an electric Formula Student vehicle
- Developed digital and analog circuit designs in Autodesk EAGLE and embedded systems software using C++
- Promoted engineering best practices through documentation and Failure Mode and Effects Analysis (FMEA)

Work Experience

Graduate Research Assistant - **Georgia Tech Space Systems Design Laboratory** *Aug 2019 – Jan 2021*

- Managed Lunar Flashlight Propulsion System controller team, directed vendor logistics and internal schedules
- Designed, assembled, and tested embedded thruster controller including hardware and firmware development
- Tested radiation-based failure modes of components, implementing a radiation-hardened embedded system

CubeSat Propulsion System Integration Intern - **NASA Jet Propulsion Laboratory** *May 2020 – Aug 2020*

- Performed functional testing of embedded systems and developed hardware tooling for testbed operations
- Designed and executed environmental test procedures including random vibration and thermal vacuum

Software Engineering Intern - **Areva / Orano Federal Services** *May 2017 – July 2017*

- Developed IoT radiation detection system with TI CC2650 transmitter, Android receiver, and Node.js web app

Infrastructure Engineer Co-op - **Georgia Tech Research Institute** *May 2015 – April 2017*

- Designed and implemented physical/virtual application networks
- Developed SELinux module bugfixes, assisting with department-wide upgrade to RedHat Enterprise Linux v7
- Extended Python production application features and stood up Elasticsearch Logstash Kibana logging service

Technology Coordinator - **Atlanta Adventist Academy** *July 2013 – May 2014*

- Maintained VoIP, Cisco video conferencing, and wireless network infrastructure, supporting students and staff