Justin K. Htay

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Electrical Engineering/Math major seeking a signal processing R&D internship for Summer 2020.

EDUCATION

Georgia Institute of Technology August 2016 - May 2021
- *Bachelor of Science in Electrical Engineering* *Atlanta, GA*
  Bachelor of Science in Mathematics *GPA: 3.93*

EXPERIENCE

Sandia National Laboratories May 2019 - present
R&D Intern, Autonomy for Hypersonics *Albuquerque, NM*
- Assisted in preprocessing of images generated by synthetic aperture radar (SAR) for use in automatic target recognition (ATR).
- Applied optimal control principles to improve Sandia's capability for real-time trajectory generation for hypersonic vehicles and increased output of trajectory simulator by a factor of 100.

Georgia Tech Research Institute (GTRI) January 2017 - August 2018
High Performance Computing Co-op, Advanced Concepts Laboratory *Atlanta, GA*
- Applied optimization techniques such as genetic algorithms to design electromagnetic structures using the FDTD method.
- Maintained 10 large computing resources, extensively utilizing Bash scripting, knowledge of Linux, and problem-solving skills.

PROJECTS

- **Efficient Normal Random Number Generation** June 2018 - May 2019
  - Implemented novel rejection-free method for generating normally-distributed random numbers in MATLAB and C.
  - Performed rigorous statistical testing and optimization to ensure speed and accuracy of algorithm.

- **3D Printed Fragmented Aperture Antenna** January 2017 - June 2017
  - Designed 3D-printable antenna using GTRI's fragmented aperture approach generalized to 3D space.
  - Implemented a graph theory-based connectivity algorithm in Python to ensure manufacturing feasibility.
  - Published results in paper entitled *A 3D Printed Fragmented Aperture Antenna.*

SKILLS

- **Programming**: MATLAB, Python, bash, C, C++, Java, JavaScript, VHDL
- **Software**: Linux (Ubuntu, RHEL), LaTeX, vim, Altera Quartus II, Git, LTSPICE, NI Multisim, Mathcad
- **Hardware**: ARM mbed microcontroller, FPGAs, Oscilloscope, Logic analyzer, Function generator
- **Coursework**: Signal Processing, Communications, Information Theory, Combinatorics, Complex Analysis

LEADERSHIP

Georgia Tech College of Computing January 2017 - May 2019
Course Manager/Teaching Assistant, CS1371 (Computing for Engineers) *Atlanta, GA*
- Served as Course Manager and was responsible for communication with professors, management of the TA team, and implementing course policies.

Academic Quizbowl Team August 2016 - April 2019
President/Treasurer *Atlanta, GA*
- Raised over $3000 annually by hosting collegiate tournaments and doubled club attendance.

AWARDS

- **Outstanding ECE Senior Co-op Award** April 2019
  - Selected as the best senior co-op student in the School of Electrical and Computer Engineering by a panel of faculty.