

# Ryan McGill

(256)-655-4782 ○ RAM0063@auburn.edu



## EDUCATION

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**Auburn University**  
Graduation May 2020  
Bachelor of Computer Engineering

August 2016 – Present  
GPA: 4.0/4.0

## RELEVANT EXPERIENCE

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**MIT Lincoln Laboratory**  
*Student Technical Researcher*

August 2019 – Present  
*Auburn, AL*

- Received funding from MIT Lincoln Laboratory to develop an American Sign Language (ASL) translation architecture that combines computer vision and machine learning to enable ASL-English conversations.

*Research Intern*

May – August 2019  
*Lexington, MA*

- Studied radar principles and physics in order to develop MATLAB tools that model wind turbine clutter for the Intelligence, Surveillance, and Reconnaissance Systems & Architectures group.
- Analyzed the interference of wind turbines on radars. Compared simulation to real data collected in the field to confirm model accuracy.
- Created "ENVOY", an American Sign Language translating tool as part of the Intern Innovative Idea Challenge. Secured laboratory funding to continue research and development of the project.

**Auburn Department of Electrical and Computer Engineering**  
*Undergraduate Research Assistant*

September 2018 – Present  
*Auburn, AL*

- Integrating an embedded system in C/C++ to steer a laser communication payload on the Quantum Encrypted Satellite based Transmission (QUEST) project for a 12U small satellite.
- Penetration and vulnerability testing on a radar for the Army through Dynetics Inc. (a defense contractor). Processed files and constructed pathways to disrupt normal radar operation.
- Assisted on the receiver end on Globalsense for the National Oceanic and Atmospheric Association which involved the development of disposable environmental probes.
- Tested a retro-directive antenna array to be used in communication systems. Researched topologies for the IC board in order to minimize the area and lower the power usage of the design.

**The Boeing Company**  
*STEM Intern*

June – August 2015  
*Huntsville, AL*

- Space Launch System (SLS) intern for the avionics division on the core stage. Consolidated hardware engineering data from various stages of the rocket and tracked test results as well as location data.

## ACADEMIC ACHIEVEMENTS

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- Most Outstanding Student for Computer Engineering
- Eta Kappa Nu Electrical & Computer Engineering Honor Society
- Phi Kappa Phi National Honor Society
- Tau Beta Pi National Engineering Honor Society
- Most Outstanding Student for the College of Engineering Nominee
- Dr. Phillip W. Lett Endowed Scholarship
- H.K. Porter Endowed Scholarship
- Spirit of Auburn Presidential Scholarship
- Marshall Keith Jr. Memorial Scholarship
- Dean's List (Fall 2016 – Spring 2019)

# Ryan McGill

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## PRESENTATIONS & TALKS

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**R. McGill**, *Integrated Quantum Photonics: Fabrication of InP Waveguides for Quantum Key Distribution*

Auburn, AL – December 4th 2019

- Auburn Department of Electrical and Computer Engineering Microelectronic Fabrication Final Class Presentations

**W. Pennington, A. Kaylor, R. McGill**, *Quantum Encrypted Satellite-Based Transmission*

Auburn, AL – November 7th 2019

- Second Place, Auburn University College of Science & Mathematics Undergraduate Research Fair

**A. Kaylor, R. McGill, W. Pennington, A. Freeman**, *Preliminary Design Review: Quantum Key Distribution Payload*

Auburn, AL – October 30th 2019

- Department of Defense sponsored Preliminary Design Review

**R. McGill**, *Wind Turbine Impact on Air Surveillance Radar: Simulation and Models*

Lexington, MA – August 5th & 9th 2019

- MIT Lincoln Laboratory Summer Research Talks

**R. McGill, E. Dietrich, E. Mitchell, A. Patel, M. Goldwater, K. Leong, R. Martel**, *EN-VOY: Enabling Natural-language Versatility and Opportunity*

Lexington, MA – July 16th & 26th 2019

- First Place Overall, MIT Lincoln Laboratory Intern Innovative Idea Challenge Final Round
- Best Poster Award, MIT Lincoln Laboratory Intern Innovative Idea Challenge Round Two

## TECHNICAL STRENGTHS

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<b>Computer Languages</b>	Java, C++, C, MATLAB, Python, ARM based assembly, VHDL, Verilog, RISC-V
<b>Hardware &amp; Software</b>	Optics Bench, Oscilloscopes, Network Analyzer, Tiva-C Launchpad, Xilinx Vivado, LaTeX, some SOLIDWORKS, NI Multisim, LTspice IV

## RELEVANT COURSEWORK

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- Microelectronic Fabrication Lab
- Digital Signal Processing
- Optoelectronics (Spring 2020)
- Computer Architecture & Design
- Modeling & Simulation of Multidisciplinary Systems (Spring 2020)

## EXTRACURRICULAR

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- Society for Engineering Executive Development
  - Established a professional development club for all engineers. Topics range from graduate school applications to negotiating interviews that are taught by industry professionals.
    - \* Founder and Vice President (May 2018 – Present)
- Cupola Engineering Ambassador
  - Giving tours to prospective engineering students as well as notable alumni. As High School Chair, maintaining database of current College of Engineering information and tour routes.
    - \* High School Relations Chair (February 2019 – Present)
    - \* Member (January 2018 – January 2019)
- Auburn University Dance Marathon
  - Maintained and created pages for the main website. Created a web-app for users to keep up with main event schedule, check-in, and receive notifications on events.
    - \* Assistant Director of Technology & Development (February 2017 – February 2018)
    - \* Committee Member (September 2016 – January 2017)