

## Contact

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(865)-299-3416

Rochester, NY

## Education

Rochester Institute of

Technology (BS/MS Electrical  
Engineering)-

Anticipated Graduation: April  
2024

Undergraduate GPA: 3.68

Dean's List: 2020 - 2023

Graduate GPA: 4.00

Thesis Title: "Explorations and  
Advancements

In Several Emerging Packaging  
Technologies for Silicon Photonics"

## Publications

Conference Paper, ECTC

(abstract accepted, pending  
publication): "Packaged Tunable

Single-Mode III-V Laser Integrated  
on a Silicon Photonic Integrated  
Chip using Photonic Wire Bonding"

Conference Paper, CELO

(abstract accepted, pending  
publication): "Low-Loss Alumi-  
num Nitride Waveguides in a 300  
nm CMOS Foundry Process"

## Certifications & Skills

Autodesk Fusion 360:

Certified User, 2018.

Programming:

C, C++, shell/bash, Python,  
LabVIEW, MATLAB,  
VHDL/Verilog, Perl, PHP.

Design Software: Fusion

360, Solidworks, Ki-Cad,  
Altium Designer 23,  
Cadence Virtuoso

## Portfolio of Work

For detailed documenta-  
tion of personal, profes-  
sional, and academic  
projects see:

<https://eot105.github.io>

(Or scan QR Code below)



# Eric Thornton

## About

Electrical engineering masters student graduating with honors in spring of 2024. In five years of professional experience, I have served as the lead engineer on several complex projects that have provided higher value and higher quality products to clients. In my research tenure I have worked to develop and improve technologies related to silicon photonics – a cutting-edge field poised to provide future breakthroughs in computing and sensing. I draw from a breadth of skills including analog and digital circuit design, PCB layout, CAD, traditional and modern fabrication technologies, and software experience from assembly to object oriented languages. I believe that truly elegant solutions to meaningful problems emerge from teams composed of members with diverse backgrounds and skill sets that have rapport and respect for each other's efforts, understand the larger context of their work, and engage in continuous discussion and constructive debate of ideas.

## Experience

**RIT Nanophotonics Group** - Researcher (August 2022 - present)

- Ongoing development of MOSAICS (Multi Output Synchronized Adjustable Independent Current Sources) allowing an arbitrary number of nanoamp precision current sources to be controlled using a Python API to support the operation and testing of next generation photonic integrated circuits.
- Developed multiple process improvements and innovations related to the use of a state-of-the-art nanometer scale 3D printer used for heterogeneous integration of lasers and silicon photonic circuits, polymer MEMS structures, and micro-optics systems.

**RIT Materials Science Department** - Engineer (August 2022 - December 2022)

- Supported team researching light activated self healing polymers in engineering custom solutions to improve process consistency.
- Worked closely with lab technicians to understand current process shortcomings and developed a dual wavelength LED exposure system with precise intensity and exposure time control via a custom GUI.

**Z-Axis, Inc** - Electrical Engineering Intern. (August 2021 - August 2022)

- Top down, complete design (CAD, machining, electrical and software) of an electro-magnetic actuator designed to automatically dislodge SMT LEDs from the vacuum pickup of an LED sorting robot. Increased output of the machine from 50 to 300 LEDs/day, allowing the company to bid on higher volume, higher value orders with confidence of on-time delivery.
- Developed the Universal Test Fixture, a complex and application agnostic system designed to test power supplies with software defined test procedures, thus eliminating the need for bespoke test fixtures for each supply. Involved the development of a high-level user oriented GUI (written in python), and a low level communication protocol (parsed in C++).

**SRC, Inc** - Electrical Engineering Intern. (May 2021 - August 2021)

- Developed IPMI Parse and Control (IPAC) for the Agile Condor high performance edge computing system. Extended the standard Intelligent Platform Management Interface (IPMI) to allow access to high level OS functions (e.g. IP addresses). This allowed richer diagnostics of networked client "slice" CPUs/GPUs from the host computer if the network interface was malfunctioning.

**Oak Ridge National Laboratory**, Unmanned Vehicles Development Group – Intern. (May 2019 – August 2019)

- Developed a novel packet protocol (BRNR-S.Bus) capable of transmitting low latency and fault tolerant telemetry data to unmanned vehicles over secure digital radio networks.
- Designed the hardware and firmware needed to implement this protocol and worked closely with other team members to integrate this hardware into the high level vehicle control system.