

# Zachary Mathews, EIT

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GitHub: [github.com/zachcmathews](https://github.com/zachcmathews)

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## CERTIFICATIONS

**Engineer-In-Training (EIT)** – EIT029482

*Feb. 2023*

**Cisco Certified Network Associate (CCNA)** – CSC014109529

*Mar. 2022*

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## EDUCATION

**Georgia Institute of Technology** – [ece.gatech.edu](https://ece.gatech.edu)

*Atlanta, GA*

**B.S. Electrical Engineering**

*Aug. 2015 - Dec. 2020*

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## EXPERIENCE

**Alzumal** – [alzumal.com](https://alzumal.com)

*Atlanta, GA*

*A single member LLC developing add-ins for Revit.*

**Owner & Revit Add-In Developer**

*May 2024 - Present*

- Developed a Revit add-in to calculate point-by-point illuminance in real-time using Vulkan raytracing.
- Conducted automated software testing to ensure the accuracy of lighting calculations using the Catch2 testing framework.
- Managed complex interop between managed C# and native C++ code using P/Invoke.
- Created a website to market SaaS software using AWS EC2 and RDS instances and integrated Stripe to process payments.
- Tracked changes to source code using the Git version control system.

**Southern A&E** – [southernae.com](https://southernae.com)

*Austell, GA*

*A full-service architecture and engineering design firm specializing in educational, athletic, and commercial design.*

**Electrical Designer II & BIM Specialist**

*Dec. 2022 - May 2024*

**Electrical Designer I & BIM Specialist**

*Dec. 2020 - Dec. 2022*

**Electrical Engineering Intern**

*Aug. 2018 - Dec. 2020*

- Documented construction requirements for lighting, power, fire alarm, intercom, and data networks in educational and recreational facilities using Revit.
- Tailored Revit families and schedules to simplify electrical load calculations and submittal review.
- Assessed and optimized lighting fixture layouts in educational and recreational facilities using Acuity Visual Lighting.
- Reviewed shop drawings and product data for compliance with project specifications and building codes.
- Conducted inspections of electrical installations at project milestones to produce punch lists for contractors.
- Developed Revit add-ins using the .NET API to automate design tasks and reduce human errors.
- Reverse engineered an MS-DOS era binary data format to extract a list of electrical loads.

**Wreck Techs, Georgia Institute of Technology** – [wrecktechs.gatech.edu](https://wrecktechs.gatech.edu)

*Atlanta, GA*

*An on-campus residential technology support team.*

**Residential Technology Advisor**

*May 2016 - May 2019*

- Provided comprehensive technical support via phone, live chat, email, and in-person.
- Diagnosed and resolved over 300 data network connection tickets, addressing both physical connectivity and configuration issues across the physical, data link, and network layers of the OSI model.
- Monitored and repaired cable TV and data network equipment serving over 10,000 on-campus residents.

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## PROJECTS

**pyRevitBoost** – [github.com/zachcmathews/pyRevitBoost](https://github.com/zachcmathews/pyRevitBoost)

*May 2020 - Present*

*An extension to pyRevit, an IronPython environment providing access to the .NET Revit API.*

- Developed an add-in that enables filtering based on any parameter assigned to Revit elements.
- Developed an add-in to import and assign electrical loads from a CSV file to Revit circuits.
- Developed an add-in to move multiple circuits from one panel to another, maintaining order when possible.