

# Benjamin Isaac

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## EDUCATION

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### Northwestern University

Sep 2023 - Jun 2026

B.S. in Computer Science; McCormick School of Engineering

Evanston, IL

- GPA: 3.9/4, Activities: Responsible AI Student Organization, Kappa Theta Pi Tech Fraternity
- Courses: Data Structures + Algorithms, ML, OOP, Scalable Software Architecture, Computer Systems

## EXPERIENCE

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### Digital Technology Intern @ Northwestern University Libraries

Feb 2024 - Present

- Develop web interfaces to manage digital library resources and organize research repositories
- Contribute 14+ Python scripts for data clustering, file conversion, document parsing, and NLP
- Topic model 10,000 film and text datasets to analyze semantic similarity for Anthropocene ML grant

### Cybersecurity Intern @ Illinois Institute of Technology

May 2023 - Jun 2023

- Constructed a Virtual Machine equipped with cybersecurity software and threat assessment testing
- Integrated firewall protocols, data encryption, and anti-malware to block 150+ possible malware threats
- Configured 7 advanced network security protocols used by 400+ employees at Cisco Systems

## PROJECTS

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### Navigating Northwestern

Mar 2024 - Jul 2024

- Developed C++ application for mapping and navigating 240 acres of Northwestern's Evanston Campus
- Incorporated live data processing and retrieval for 103 buildings, 686 sidewalks, and 12 bus stops
- Implemented real-time bus tracking and arrival predictions for optimizing student travel routes

### Equi-balance

Sep 2023 - Jan 2024

- Engineered Weight-Shifting Belt to assist 22 patients with gait disorders at the Shirley Ryan AbilityLab
- Utilized Arduino, ESP32 microcontroller, accelerometer, and mechanical belt rail to monitor live data on patient's movement, stabilize center of gravity, and provide up to 5.5 lbs of force to assist in walking
- Presented design to 160 IMC graduates of Northwestern School of Journalism to market prototype

### Project Lead the Way

Sep 2022 - May 2023

- Designed an autonomous debris detection system for gutters, utilizing Raspberry Pi, light sensors, and pressure sensors to identify clogs in gutters up to 35 feet long and send real-time text alerts to users

## LEADERSHIP & ACTIVITIES

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### Young Ambassador's Board, President, Cybersecurity Committee Lead

Aug 2019 - Jun 2023

- Presided over 40+ students selected from Lake County schools to address youth community issues
- Founded and led a cybersecurity youth program reaching 4 local middle schools to teach cyber safety
- Raised \$2,250 in direct proceeds for the Lake County Children's Advocacy Center

### Responsible AI Student Organization, Workshop Team Member

Sep 2023 - Present

- Discuss ethical use of AI on campus and engage with 626 CS students monthly on using AI responsibly

## SKILLS

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- **Software Languages:** Java, Python, C, C++, MATLAB, SQL, Markdown, JavaScript
- **Technologies:** CAD, BERTopic (topic modeling), GloVe (NLP), Slurm, Pandas, AWS, Arduino