

# LUCAS HOLLIDAY

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## EDUCATION

### Northwestern University

Evanston, IL

*Bachelor of Science in Computer Science* (concentration: Artificial Intelligence)

Expected June 2027

*Bachelor of Science in Industrial Engineering and Management Sciences* (concentration: Data Science)

Minor: Cognitive Science

GPA: 4.0/4.0, High Honors Dean's List 6/6 quarters

## SKILLS

**Programming Languages:** Python, R, Java, JavaScript, C, C++, Assembly, SQL, HTML, CSS, MATLAB

**Tools:** Excel, Git, AWS (RDS, S3, Lambda, SageMaker, Elastic Beanstalk), Azure, OpenAI API, REST APIs, Docker

**Frameworks & Libraries:** React, Node.js, pandas, NumPy, matplotlib, scikit-learn, TensorFlow, PyTorch, igraph

**Coursework:** Data Structures, Algorithms, Programming, AI/ML, Operating Systems, Optimization, Statistics, Finance

## EXPERIENCE

### Northwestern University Practical AI Research Group

Evanston, IL

*Research Assistant*

May - Present

- Developing a web-based educational toolkit for supply chain network design, featuring real-world case studies and models, academic research, and categorized directory of end-user firms and service/software providers

### Eclipsium: Supply Chain Security for IT Infrastructure

Portland, OR

*Customer Operations and Services Intern*

Summer 2024

- Created Python compliance certificate that automated reporting workflows, improving efficiency and ensuring alignment with new 2025 National Security Agency (NSA) Cybersecurity Guidelines

### Khan Academy Schoolhouse.world

Remote

*Math Tutor*

September 2022 - August 2023

- Led group tutoring in algebra, geometry, and precalculus to prepare high school students for the SAT math exam

### Catlin Gabel School Summer Camps

Portland, OR

*Student Director, Camp STEM Counselor*

Summer 2021, Summer 2022

- Managed enrollment logistics for 300 students with CampBrain and designed LEGO Robotics sessions for 20 students to teach STEM skills

## PROJECTS

### Chess Game | Northwestern University

June - July 2025

- Built a chess game in Java with TDD/BDD workflows; implemented full piece movement, advanced rules (stalemate, castling, promotion, en passant), and a Java Swing GUI with internationalization support
- Ensured high software quality with 100% code coverage, complete mutation testing, peer code reviews, Clean Code practices, and CI/CD pipelines with branch protection

### Social Network Analysis for Scoring Success in the NBA | Northwestern University

April - June 2025

- Built NBA player passing networks in Python to map ball movement and team dynamics
- Utilized R to analyze global network properties and model tie formation using ALAAM and ERGMs, evaluating how network position influences team success and individual scoring performance

### Hoop Deck | Northwestern University

January - March 2025

- Built an AI-powered March Madness app to predict game outcomes and support interactive bracket analysis
- Utilized AWS SageMaker, Lambda, API Gateway, RDS, and S3 for full-stack deployment.

## LEADERSHIP & AWARDS

Northwestern Murphy Scholar | Awarded \$4,000 to pursue independent research project

April 2024 - Present

Ambassador | Northwestern Computer Science Department

December 2024 - Present

Northwestern Garage Resident | Selected for competitive startup incubation program

January - June 2025

Awarded U.S. Patent #11,878,180 for compact, low-cost glovebox AED design

January 2024

National Merit Scholar | Awarded \$2,500 scholarship applied toward college tuition

April 2023