

# Adam Sadek

Master's in Artificial Intelligence  
Bachelor's in Computer Science  
Graduating Fall 2024 From Illinois Institute of Technology

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## Expertise

Artificial Intelligence (AI)  
Machine Learning  
Database Organization  
Data Science  
Natural Language Processing

## Programming Experience

Python  
SQL  
Java  
Assembly Code  
Haskell  
C  
r  
Racket  
HTML & CSS

## Interests

Artificial Intelligence  
Developing models and studying complex datasets to identify patterns that can offer groundbreaking solutions to complex problems.

## Database Design

Designing entity relationship diagrams, relationship schemas, and data definition languages for databases.

## Basketball

Played all through high school and was an NCAA Division III player at Illinois Institute of Technology.

## Experience

### LanzaJet - Artificial Intelligence Internship (June 2024 - August 2024)

- Developed a machine learning model to maximize yield out of LanzaJet's renewable fuel plant by optimizing sensor tag values.
- Built artificial neural networks and random forest regressors for yield prediction, using gradient ascent and genetic algorithms for yield maximization.
- Constructed generative AI workshops and developed use cases for different departments including engineering, finance, and technology development.

### Pentair - Computer Science Internship (May 2023 - August 2023)

- Spearheaded design and optimization of an automated system for internal life cycle testing of Pentair water softeners.
- Conducted interviews with software, electrical, and IoT engineers, as well as product development team to collect data on life cycle testing.
- Diagrammed the system of inputs, outputs, sensors, internal/external devices, and functionality of the self-testing softener.

### COM-IoT Technologies - Data Science Internship (May 2022 - August 2022)

- Using supervise.ly, annotated over 1,200 point cloud data frames made by a LiDAR focused on traffic objects such as cars, trucks, buses, pedestrians, and motorcycles.
- Performed LiDAR research assignments regarding U.S. autonomous vehicle companies utilizing LiDAR technology.

### AdSmart - Startup Business (August 2023 - December 2023)

- Connected local businesses to university campuses to advertise to the student population.
- Interviewed and partnered with over 20 local businesses including cafes, restaurants, and barbers.
- Developed deal with University athletic department for local advertising in gymnasium.

## Academic Achievements

### Xprize Rainforest Competition - Circuit Board Design (August 2022 - December 2022)

- Using KiCad software, designed and built a printed circuit board (PCB) for a drone package equipped with motors, a microprocessor, a motor driver, and voltage converters.
- Designed the schematic and PCB, programmed the microprocessor, and manufactured the board.

### Illinois Institute of Technology - Dean's List

- Achieved during all eight semesters completed at Illinois Institute of Technology.
- Graduate GPA of 4.0 and undergraduate GPA of 3.94.

## Projects

SQL Banking System Database Using JDBC	LiDAR Point Cloud Data Frames	Genetic Algorithm on Traveling Salesman	Machine Learning on Hotel Booking	Naive Bayes Classifier for App Reviews
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