

# J. Abigail Joseph

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## EXPERIENCE

### Digital Twin Simulation Environment Development for Smart Cities, REU Program in Sensing and Smart Systems (I-SENSE, Florida Atlantic University)

June 2023 - present

- Development of a virtual simulation environment and AI-enabled agent models via Unity and C sharp
- Use of data integration with Cesium for Unity, A\* pathfinding and graph theory to simulate pedestrian behavior, and Adobe Mixamo to animate AI agents
- Produce and maintain extensive project and research documentation, and version control using Git and Github

## PROJECTS

### Data Loading, Classification, and Visualization - 102 Flower

*Mathematics of Data Science*

- Executed the visualization of the 102 Flower dataset.
- Presented outputs of a pre-trained AlexNet model.
- Fine-tuned AlexNet for enhanced image classification.
- Tools used: Python (Pytorch), Google Colab.

### Exploratory Data Analysis - 'nycflights13'

*Tools for Data Science*

- Conducted comprehensive exploratory data analysis.
- Developed a detailed analytical report.
- Tools used: R (dplyr), RStudio.

### Florida Pine Rescue

*Mathematics of Data Science*

- Utilized the AlexNet convolutional neural network architecture.
- Employed heatmap visualization techniques.
- Conducted research on Australian pines.
- Proposed a business-oriented solution.
- Tools used: Python, Google CoLab.

**GITHUB:** <https://github.com/jabigailjoseph>

## SKILLS AND TECHNOLOGIES

**Artificial Intelligence:** Python, Google CoLab

**Data:** R, SQL, Excel

**Game Development:** C# for Unity

**Programming:** C/C++, Assembly

**Web Development:** CSS, HTML

**Other:** Git/GitHub

## EDUCATION

### **Florida Atlantic University**

Bachelor of Science in Data Science and Analytics in Engineering

Minor in Cybersecurity, College of Engineering and Computer Science

*Academic Achievements:* University Honors Program

## RELEVANT COURSEWORK

Foundations of Computer Science, Data Structures and Algorithms, Discrete Mathematics, Introduction to Data Science, Mathematics of Data Science, Introduction to Database Structures, Artificial Intelligence for Social Good, Introduction to Microprocessors

## LEADERSHIP EXPERIENCE

### **Society of Women Engineers, University Chapter Treasurer**

Spring 2023 - present

- Oversaw financial operations and budgeting.
- Coordinated student travel and liaised for funding.
- Expanded the organization's membership significantly.

## ACTIVITIES

### **SIAM Reading Group, content enricher**

Fall 2023 - present

- Conducted in-depth research on various topics.
- Enhanced group discussions through effective communication.

## FOR MORE INFORMATION

Handshake

Personal Website