

# Olivia Tirso

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## EDUCATION

**Kean University | Union, New Jersey**

**B.S. in Computer Science Information Systems | GPA: 3.5**

**Expected December 2025**

## TECHNICAL SKILLS

**Operating Systems:** Windows, MacOS, Android, iOS

**Programming Languages:** Java, MYSQL, JavaScript, Python, HTML, React, Swift, JavaScript, HTML/CSS

**Relevant Coursework:** Data Structures, IT Project Management, Computer Programming/Systems, Artificial Intelligence, Computer Vision, Mobile Application Development, Software Engineering

**Tech/Tools:** Eclipse, VScode, Google Colab, XCode, Android Studio

## AWARDS

**CASHI Conference Travel Scholarship 2023, 2024, 2025**

**Freshmen Research Initiative (FRI) Research Stipend 2023**

**Kean Scholars 2024 & 2025**

**Improving Undergraduate STEM Education (IUSE) Research Stipend 2023**

**NSF CS/IT - Stem Scholarship 2024-2025**

**NSF Build and Broaden Program 2024-2026**

**Dean's List: 2023 Fall & Spring, 2025 Spring**

## PROJECTS/EXPERIENCE

**Senior Capstone Project | CatScan App**

**January 2025 – May 2025**

- Collaborated with a team of peers to design and build CatScan is an iOS application developed to assist users in identifying cat breeds through photos.
- This project exemplifies the intersection of AI, mobile development, and user interface design, demonstrating the practical application of image classification models within a user-friendly app.

**Undergraduate Research Fellow | NSF Build and Broaden Program**

**May 2023 – August 2025**

- Gathering and Visualize data using STATA and Python for Economic Conditions and the Gig Economy to measuring the Impact and Implications for Social Welfare Programs.

**Student Scholar | NSF Improving Undergraduate STEM Education**

**May 2023 – August 2025**

- Utilizing natural language processing techniques for text summarization and sentiment analysis in the context of hotel reviews.
- Offers an opportunity to investigate the practical applications of these methods.

**Student Researcher | Freshmen Research Initiative, Kean University**

**May 2023 – July 2023**

- Created a program using Python, that develops a visual representation of hotel review data to identify key aspects and patterns using text processing and data analysis.

## RESEARCH POSTER/PRESENTATIONS

**O. Tirso and D. Kwak, "Leveraging LLMs for Topic Categorization and Sentiment Analysis in Hotel Reviews," in 37<sup>th</sup> Annual GMIS Conference, San Diego, CA, October 2-4, 2025.**

**O. Tirso and D. Kwak, "Optimizing News Aggregation with Automated Text Summarization," in 36<sup>th</sup> Annual GMIS Conference, Fort Worth, TX, November 6-9, 2024.**

**O. Tirso and D. Kwak, "Simplifying Hotel Reviews: Sentiment Analysis and Review," in 35<sup>th</sup> Annual GMIS Conference, Pasadena, CA, October 11-14, 2023.**

## RESEARCH PROJECTS

**Leveraging LLMs for Topic Categorization and Sentiment Analysis in Hotel Reviews** **June 2025 – September 2025**

- Applied Large Language Models (LLMs) to perform sentiment analysis and topic categorization on thousands of hotel reviews, generating structured insights from unstructured customer feedback.
- Improved research outcomes by building a pipeline that organizes reviews into key themes (e.g., staff, location, cleanliness) and summarizes sentiment trends for actionable decision-making.

**Economic Conditions & the Gig Economy: Impact on Social Welfare Programs**

**June 2023- August 2025**

- Developed and evaluated machine learning models (Random Forest, XGBoost) to classify gig economy participation and forecast income trends using CPS and SHED datasets.
- Used predictive analytics to analyze labor market volatility and income instability, highlighting AI's role in policy research.

**News Aggregation through Text Summarization**

**June 2024 – September 2024**

- Developed and evaluated automated text summarization methods to address the issue of information overload caused by the increasing volume of daily news articles.
- Enhanced productivity and knowledge management through the creation of a system that optimizes information processing and aggregation. Increasing volume of daily news articles

## ACTIVITIES

**Member, Association for Computing Machinery-Woman (ACM-W)**

**September 2023 – Present**

**Member, Association for Computing Machinery- (ACM)**

**September 2023 – Present**