

Gabriel Serrano

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Education

Bachelor of Science, Computer Science, Kean University, Union, New Jersey

Dec 2023

Awards & Honors

Research Recruits Program (RRP) Scholar

Fall 2023 - Present

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program Scholar

Fall 2022 – Present

Garden State Louis Stokes Alliance for Minority Participation (GS-LSAMP) Scholar

Spring 2023 – Present

2nd Place Winner, 2023 Research Poster Competition, Undergraduate CAHSI Computing, GMIS'23

Fall 2023

3rd Place Winner, ACM Student Research Competition (SRC), CMD-IT/ACM Tapia'23

Fall 2023

NSF IUSE Research Experiences for Undergraduates (REU) Scholar

Summer 2023

1st Place Winner, Annual Hackathon (HackKean), Kean University

Spring 2023

Lambda Alpha Sigma Honor List, Kean University

Fall 2020

Skills

Programming Languages: Java, Python, HTML/CSS, JavaScript

Technical Skills: Object Oriented Programming, Data Structures & Algorithms, Systems Design

Software and Tools: Git, Eclipse, IntelliJ, PyCharm, Visual Studio Code, Amazon Web Services (AWS)

Experience

Undergraduate Researcher | Research Recruits Program, Kean University

Sep 2023 - Present

- Local LLM Comparison REU - Developed an automated way to compare LLMs and LLM summarization.

Software Dev Engineering Intern | AWS Fraud Prevention, Amazon

Jun 2023 – Sep 2023

- Designed and implemented a scalable service that monitors the quality of features for machine learning models and notifies staff when the quality begins to drift.

Student Scholar | NSF IUSE Research Experiences for Undergraduates (REU) Program, Kean University

Jun 2023 – Aug 2023

- LLM Summarization REU - Researched using LLMs to summarize electronic health records.

Supplemental Instruction (SI) Team Leader | Kean University

Jan 2023 – Apr 2023

- Facilitated meetings with other SI Leaders to provide announcements and feedback on performance.

Supplemental Instruction (SI) Leader | Kean University

Sep 2022 – Dec 2022

- Organized and facilitated Supplemental Instruction sessions, and office hours for students to review difficult course material in a group environment.

Research Projects

Summarizing Electronic Health Records | Python, Tkinter, pytesseract, pdf2Image

Mar 2023 – Present

- A collaborative project with CPC Integrated Healthcare which accepts electronic health records as input and returns a summary of the record, separated by the date(s) associated with the document.

Sign Language Recognition AI | Python, Tkinter, OpenCV, Tensorflow

Sep 2022 – Sep 2023

- Uses machine learning to predict the ASL and BSL alphabet from photos, videos, and real-time video.

Emotional Support AI | Python, Tkinter, Sci-Kit Learn

Oct 2022 – Mar 2023

- Classifies text and speech input into a variety of mental health disorders to provide a digital mental health report, coping mechanisms, and helpful information related to specified disorder(s).

Research Poster/Conferences

[1] G. Serrano and D. Kwak, "Electronic Health Record Summarization via Large Language Models" In *35th Annual GMIS Conference*, Pasadena, California, October 11-14, 2023.

[2] G. Serrano, Y. Kumar, and J. J. Li, "Realtime ASL Recognition Using Computer Vision and AI," In *CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference (Tapia'23)*, Grapevine, Texas, September 13-15, 2023.

[3] G. Serrano and D. Kwak, "An Emotional Support AI to Assist Mental Health Disorders" In *Kean Research Days*, Union, New Jersey, April 24-26, 2023.

[4] G. Serrano and D. Kwak, "An Emotional Support AI to Assist Mental Health Disorders" In *National Conference on Undergraduate Research (NCUR'23)*, Eau Claire, Wisconsin, April 13-15, 2023.

Publications

[1] G. Serrano and D. Kwak, "Realtime Sign Language Recognition Using Computer Vision and AI," In *2023 International Congress on Computational Science and Computational Intelligence (CSCI'23)*, Las Vegas, NV, USA, 2023. – *In Submission for Review*

[2] G. Serrano and D. Kwak, "ESAI: An AI-Based Emotional Support System to Assist Mental Health Disorders," In *2023 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'23)*, Las Vegas, NV, USA, 2023.

Citizen of the United States