KEEGAN KRESGE

KeeganKresge.com ◇ kjk6690@rit.edu ◇ Cell: (570) 352-6299

EDUCATION

Rochester Institute of Technology   Graduated May 2022
· Computational Mathematics B.S. with Imaging Science Immersion.
· Honors Program and Dean's list every semester.
· GPA: 3.88/4.00.

RESEARCH EXPERIENCE

Gesture Recognition Student Researcher   Temple University   06/01/2021 – 07/30/2021 (40 hrs/wk)
· **Engineered gesture recognition system** under supervision of Dr. Yan Wang (Computer Science Dept).
· Designed lightweight convolutional **neural network** with Keras Python package for identifying gestures.
· Developed robust data segmentation method for gesture extraction using **signal processing** techniques.
· **Wrote research paper** accepted for publication in IEEE Mobile Ad-Hoc and Smart Systems Conference.
· Demonstrated perseverance through over **800** gesture collection trials.

Epidemiology Student Researcher   Ohio State University   06/01/2020 – 07/30/2020 (40 hrs/wk)
· **Simulated epidemics** under supervision of Drs. Eben Kenah and Greg Rempala (Public Health Dept).
· **Developed algorithms** to simulate real world interaction networks based off neighboring connections.
· **Analyzed data of 300,000** simulated epidemics to explain how a virus can variably affect populations.
· **Published research paper** detailing the specifics of model, algorithm, and results in SIURO journal.
· **Presented research methods** and results at JMM Conference, REU Capstone, and πRIT math club.

Imaging Project Student Researcher   Rochester Institute of Technology   01/07/2019 – 05/01/2019
· **Invented** imaging system under supervision of Professor Joe Pow (Imaging Science Department).
· **Engineered imaging system** to efficiently replicate small objects into digital 3D models.
· Designed and implemented data-flow and lighting systems and conducted **Push Analyses** on methods.
· Presented invention at Imagine RIT convention, attended annually by **30,000** people.

PROGRAMMING LANGUAGES   OTHER SKILLS

Python	–	Advanced	**C**	–	Proficient	**SQL**	–	Proficient
MATLAB	–	Advanced	**Java**	–	Proficient			

Excel	–	Advanced
LaTeX	–	Advanced

COLLEGE ACTIVITIES

· π RIT Mathematics Club	**President**, VP & Public Relations	2018-present
· $\Phi\Sigma\Pi$ Honors Fraternity	**Initiate Advisor**	2019-present
· Rocky Horror Picture Show Club	**President**	2018-present

PUBLICATIONS

· Kresge, K., & Petruzelli, N. (2021). Analyzing Epidemic Thresholds on Dynamic Network
     Structures. SIAM Undergraduate Research Online, 14. https://doi.org/10.1137/20s1368227
· Kresge, K., Martino, S., Zhao, T., Wang, Y. (2021). WiFi-based Contactless Gesture Recognition
     Using Lightweight CNN. IEEE MASS Proceedings. https://researchgate.net/publication/353622794

OTHER WORK EXPERIENCE

Learning Assistant   Rochester Institute of Technology   08/23/2021 – 12/06/2021 (10 hrs/wk)

· Assist learning through helping class of 90^{+} students with example questions.

· Host sessions for students to practice probability and statistics concepts.

Linear Algebra Grader   Rochester Institute of Technology   01/25/2021 – 05/05/2021 (6 hrs/wk)

· Graded over **1,000** assignment submissions across 81 students, including 3 MATLAB modules.

Calculus TA   Rochester Institute of Technology   08/17/2020 – 11/30/2020 (6 hrs/wk)

· Assisted 34 students with 31 workshops and graded over **800** assignment submissions.

Orientation Leader   Rochester Institute of Technology   08/12/2019 – 08/23/2019

· **Facilitated discussions** on Title IX, academic success, campus and university policies.

· Led 20 first-year students through orientation activities to cultivate campus culture.

Camp Counselor   Camp Weequahic   06/01/2019 – 07/14/2019

· Designed 2 new activities: Scratch programming and American Sign Language lessons.

· Managed 22 campers over 60 days to ensure safety, entertainment, cleanliness and fun.