

Joseph Oglio

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WORK EXPERIENCE

Research/Teaching Assistant, Kent State University, November 2019 – Present

- Studied conventional and cutting-edge cryptocurrencies, blockchain technologies, and consensus algorithms, while developing several C++ based consensus algorithms and a testbed for simulating networks which resulted in the publication of several papers.
- Teach the lab portion of the courses CS1 and CS3 which go over basic and advanced concepts in the C++ programming language as well as modern design patterns.

Intern, ZIN Technologies, Inc., June 2018 – November 2019

- Developed software-based engineering tools to convert the trajectories of satellites between reference frames and visualize the results.
- Tested the feasibility of using game engine physics engines for mission development.

Intern, NASA, January 2018 - June 2018

- Developed several Matlab based tools for computing the trajectories of satellites during orbit.
- Determined the intervals for communication for these satellites based on obstructions, viewing angles, and atmospheric conditions.
- Used the results of the above to create an “optimized” schedule to support mission success across many competing goals as well as software capable of visualizing the schedules.

Intern, Alcoa, May 2017 - June 2017

- Performed experiments to calculate the heat transfer coefficient of metals used during the tire forging process.

PUBLICATIONS

- J. Oglio, K. Hood, G. Sharma, M. Nesterenko, "Consensus on an Unknown Torus with Dense Byzantine Faults" *International Conference on Networked Systems*, May 2023.
- J. Oglio, K. Hood, M. Nesterenko, S. Tixeuil, “QUANTAS: Quantitative User-friendly Adaptable Networked Things Abstract Simulator”, *Workshop on Advanced tools, programming languages, and PLatforms for Implementing and Evaluating algorithms for Distributed systems*, July 2022
- J. Oglio, K. Hood, G. Sharma, M. Nesterenko “Byzantine Geoconsensus”, *International Conference on Networked Systems (NETYS)*, May 2021, best student paper award and “Brief Announcement: Byzantine Geoconsensus”, *Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS)*, pp. 199-204, November 2020
- K. Hood, J. Oglio, M. Nesterenko, G. Sharma “Partitionable Asynchronous Cryptocurrency Blockchain”, *IEEE International Conference on Blockchain and Cryptocurrency*, May 2021
- J. Oglio, and B. Welch. “Development of the ITACA Network Loading Analysis Tool's Scheduling Techniques”, *NASA Technical Reports Server (NTRS)*. June 2018.

EDUCATION

- Kent State University, Bachelors in Applied Mathematics. May 2020. "Partitionable Blockchain." *Electronic Thesis. Kent State University*, May 2020.
- Kent State University, Masters in Computer Science. May 2023.
- Kent State University, PhD in Computer Science. Expected Graduation May 2025.

TECHNICAL EXPERIENCE

- Languages: C++, JavaScript, Python, HTML, Matlab, C#
- Tools: GitHub, Jupyter, Make, JQuery, Unreal, Unity, Gnuplot, TensorFlow, Keras