Tim Ransom orcid.org/0000-0003-0357-5427

Contact Information

Sirrine Hall, 269
Engineering and Science Education
Clemson University
515 Calhoun Dr., Clemson, SC 29634

Voice: (336) 213–2725
E-mail: tsranso@clemson.edu
website: tsranso.people.clemson.edu

Education

Clemson University

Ph.D., Engineering and Science Education, 2024 (expected)
Dissertation topic: Development of Undergraduate Computing Identity
Committee: Dr. Eliza Gallagher (chair), Dr. Matthew Boyer, Dr. Marisa Orr, Dr. Lisa Benson

Clemson University

M.S., Computer Science, 2020

Appalachian State University

B.Sc., Computer Science, 2017
B.Sc., Computational Mathematics, 2017

Professional Experience

Clemson University

Graduate Research Assistant, Engineering and Science Education **May 2020 — Present**
Researched the impact of transition to online learning modalities by Aviation Maintenance Technician students during the COVID-19 pandemic. Designed and conducted both interviews and surveys to collect data. Analyzed data and presented results for presentation and publication.

Assistant Systems Administrator, School of Computing **May 2018 — May 2021**
Managed, maintained, and deployed Linux, Windows, and OSX machines for department use.

Graduate Research Assistant, Computer Science Department **May 2018 — May 2021**
Designed, deployed, and conducted performance analysis of manycore, homogeneous, non-uniform memory CPU architectures. Testbeds included task based parallelism, machine learning, and traditional parallelism paradigms (MPI, openMP).

Undergraduate Researcher **May 2016 — August, 2016**
Led development of Clemson Universities Intelligent River project, including development of a data resilience framework, web interface, and database management.

Appalachian State University

Software Developer, Computer Science Department **May 2016 — May 2017**
Led development of computer science microactivity educational software. Responsibilities included database management, web development, support and content creation.

Teaching Assistant, Computer Science Department **May 2014 — May 2017**
Led undergraduate lab coursework for Computer Science and Mathematics courses. Responsibilities include in-lab help, proctoring, and grading.

Tutoring, Mathematics Department **August 2013 — May 2015**
Tutor for Mathematics classes, duties involved preparing review slides, hosting study sessions, and tutoring a full class together. Individual tutoring sessions were also scheduled.

Publications

(under review) Katie Shakour, **Tim Ransom**, Eliza Gallagher, Karen Johnson, Rebecca Short, Jonathan Beck, and Kapil Chalil Madathil. (n.d.) "Understanding Aviation Maintenance Technology Programs' Responses to COVID-19 Crisis Community College Journal of Research and Practice," Community College Journal of Research and Practice.

(to appear) Katie Shakour, **Tim Ransom**, Eliza Gallagher, Rebecca Short, Karen Johnson, Gayatri Anoop, Jonathan Beck, Kapil Madathil Chalil. (n.d) "Aviation Maintenance Technology Schools Response to the COVID-19 Pandemic." American Society for Engineering Education *(ASEE)*.

(to appear) Matthew Voigt, Eliza Gallagher, Rachel Lanning, Tony Nguyen, Sharetta Bufford, Tyler Sullivan, **Tim Ransom**, Wysheka Austin. "Fostering a Supportive Mentoring Space During a Global Pandemic," January 2022 Collaborative Network for Computing and Engineering Diversity *(CoNECD)*.

Katie Shakour, Eliza Gallagher, **Tim Ransom**, Karen Johnson, Rebecca Short, Jonathan Beck, and Kapil Chalil Madathil. (n.d.) "The COVID-19 Pandemic's Impact on Student Learning at Aviation Maintenance Technology Schools." *The ATEC Journal*, Fall 2021, 8-16. (ISSN 1068-5901). https://www.atec-amt.org/uploads/1/0/7/5/10756256/atec_journal-fall21_111921_v1.pdf

Caleb Davis, Jeff Hirst, James Pardo, and **Tim Ransom** , "Reverse mathematics and colorings of hypergraphs," arXiv:1804.09638 [math], (November 2018).

Presentations

Tim Ransom, Tyler Sullivan, Eliza Gallagher, and Matt Voigt. "Leveraging Mathematics Identity in Pursuit of Computing Identity: Results of a Literature Review," January 2022 Southeastern STEM Education Research Conference.

Timothy Ransom, Eliza Gallagher, Katie Shakour, and Kapil Chalil Madathil. "Aviation Maintenance Students' Perceptions of Educational Technology During COVID-19," January 2022 Southeastern STEM Education Research Conference.

Katie Shakour, **Timothy Ransom**, Eliza Gallagher, Rebecca Short, and Kapil Chalil Madathil. "COVID-19 Impacts on Aviation Technical Education," *High Impact Technology Exchange Conference*, held virtually (July 2021).

Henry Klimek, Mickey Liu, **Timothy Ransom**, Eliza Gallagher, Katie Shakour, and Kapil Chalil Madathil. "Aviation Maintenance Technology and the Pandemic: Developing a Survey to Understand the Student Experience," *Clemson University Summer Program for Research Interns Poster Session*, held virtually (July 2021).

Mickey Liu, Henry Klimek, **Timothy Ransom**, Eliza Gallagher, Katie Shakour, and Kapil Chalil Madathil. "Aviation Maintenance Technology Student Perceptions of the Pandemic: Using Interview Data to Guide Survey Development," *Clemson University Summer Program for Research Interns Poster Session*, held virtually (July 2021).

Katie Shakour, **Tim Ransom**, Eliza Gallagher, Rebecca Short, Kapil Chalil Madathil and Jonathan Beck. "COVID-19 Impacts on Aviation Technical Education," panel discussion, *ATEC Professional Development Virtual Seminar Series*, presented virtually (March 2021).

Tim Ransom, Abby Boyd, "Getting up to speed using Rstudio," no paper, (September 2021).

Tim Ransom, Rong Ge, "Evaluation of Task Parallelism runtimes on Knights Landing Architecture," SC18, (November 2018).

Tim Ransom, Rong Ge, "Machine learning Knights Landing configurations for Task Parallelism," SC19, (November 2019).

Professional Service

- Contributed software development to RQDA project
- Reviewed submissions for SERC 2022
- Hosted and managed data processing server for collaborative use

Courses Tutored and Taught

- Calculus 1
- Calculus 2
- Linear Algebra
- Computer Systems and Architectures 1
- Computer Systems and Architectures 2
- Computer Science 1
- Computer Science 2
- Summer Program for Research Interns

Relevant Coursework

- Teaching Undergraduate Science
- Engineering & Science Student Strategies
- Critical Race Theory in Education
- Effective Online Teaching
- Theories of Engineering, Science, and Math Learning

Computer Skills

- Education Research: Qualtrics, atlas.ti, R, taguette, Microsoft Access
- Programming Languages: R, C, C++, Python, Bash, Common Lisp, Java
- Development and Managed platforms: Linux & Unix, Microsoft Windows
- Parallel Programming Libraries: OpenMP, MPI, CUDA
- Typesetting: LaTeX, Microsoft Office Suite
- Profiling tools: perf, systemtap, custom tooling
- Experience with TensorFlow