Ezekiel Cochran
Curriculum Vitæ

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EDUCATION

- Ph.D. Quantum Computing, pending 2029, Virginia Tech
- B.S. Mathematics, LeTourneau University
- B.S. Computer Science (Math Concentration), LeTourneau University
- Minor in Physics, LeTourneau University

RESEARCH INTERESTS

Quantum Complexity Theory & Cybersecurity, Number Theory.
I am particularly intrigued by the intersection of the above topics in the context of new models of computing such as blind delegated quantum computing, and how they can enable novel computation in a secure and efficient way.

PUBLICATIONS

Cochran, E., Dawsey, M.L., Harrell, E. et al.
Bijections, generalizations, and other properties of sequentially congruent partitions.
Ramanujan J (2023). https://doi.org/10.1007/s11139-023-00728-y

ACADEMIC SCORES

GPA (undergraduate)	3.899
GRE	332
Putnam	10
SAT	1510
Computer Science Major Field Test	174 (94th percentile)

PRINCIPAL COURSES

Computer Science

- CS 6104 Advanced Topics in Quantum Algorithms
- CS 6104 Frontiers of Quantum Information and Computation
- CS 5134 Introduction to Quantum Computing
- CS 4224/CS 5264/ECE 4414/ECE 5414 (Advanced) Linux Kernel Programming *(TA)*
- COSC 2203 Data Structures
- COSC 3503 Operating Systems
- COSC 3603 Networks & Data Communications
- COSC 3523 Analysis of Algorithms
- COSC 4603 Computer Theory
- COSC 4103 Computer Graphics
- COSC 4903 Project/Internship Computing

Mathematics

- MATH 5174 Mathematics of Public-Key Cryptography
- MATH 4103 Real Analysis
- MATH 4963 Topology
- MATH 3703 Abstract Algebra
- MATH 2303 Linear Algebra
- MATH 4403 Numerical Analysis
- MATH 3903 History of Mathematics
- MATH 4953 Complex Variables
- MATH 2203 Differential Equations
- MATH 3603 Mathematical Modeling
- MATH 2503 Logic, Sets, and Proofs
- MATH 3403 Statistics
- MATH 2023 Calculus 3

Physics

- PHYS 3214 Relativity & Quantum Theory
- PHYS 4953 Mathematical Methods in Physics
- PHYS 4414 Optics
- PHYS 3951 Introduction to Research
- *As well as other lower-level courses and labs*

HONORS AND AWARDS

- LeTourneau University Euler Award for Excellence in Mathematics
- President of Kappa Zeta Chi
- Gold Key Honor society
- Graduated Summa Cum Laude from LeTourneau University
- LeTourneau University President's List
- ICPC - second place within division
- Commended National Merit Scholar

PROFESSIONAL EXPERIENCE

Collins Aerospace

- **Software Engineer Intern** (2024 - present)
  I spent the summer of 2024 with the Mission Systems team at Collins Aerospace, helping develop advanced space-born communications solutions for several customers. I continue to help this development effort part-time, and will return in the summer of 2025. This is a vague description becuase the work involves sensitive technologies and information.

LeTourneau University

- **Resident Assistant** (2022 - 2024)
  I served as the resident assistant for Kappa Zeta Chi, a society with an independent house at LeTourneau University. I was responsible for making sure the house is well taken care of, as well as serving as ex officio member of all committees, presiding over all executive meetings, authorizing all expenditures, and taking care of any necessary disciplinary action.
- **Math Lab Supervisor** (2022 - 2024)
  I tutored undergraduate students on a drop in basis during math lab, helping with any level of LeTourneau mathematics class.
- **SI Instructor** (2023)
  I filled in for a professor in the mathematics department who was unable to finish out the semester, giving "Supplimental Instruction" lectures to his College Algebra students for several weeks.

UT Tyler

- **Number Theory Researcher** (Summer 2022)
  I worked with a team of scholars at UT Tyler to explore, verify, and publish new results in number theory. This was part of an NSF-funded REU.

ADVISOR

Atul Mantri, Ph.D.
Assistant Professor, Virginia Tech