

Ian Orzel

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Research Interest I am a PhD student studying at the University of Copenhagen under my advisor Srikanth Srinivasan. My interests lie in the topic of Complexity Theory, with a focus in Algebraic Complexity Theory. Specifically, my current research focuses on lower bounds from computation in specific algebraic models.

Education *Doctor of Philosophy*, Computer Science
University of Copenhagen
Advisor: Srikanth Srinivasan
September 2025 - August 2028

Master's of Science, Computer Science
University of Copenhagen
September 2023 - July 2025
GPA: 4.0

Bachelor's of Science, Computer Science and Applied Mathematics
Florida Institute of Technology
August 2019 - May 2023
GPA: 4.0

Publications *Computing the Elementary Symmetric Polynomials in Positive Characteristics*
Pre-print

Bessmertnyi realizations of symmetric multivariate rational matrix functions over any field
Pre-print
with Jason Elsinger and Aaron Welters

The Algebraic Cost of a Boolean Sum
FSTTCS 2025, Goa, India
with Srikanth Srinivasan, Sébastien Tavenas, and Amir Yehudayoff

Talks *Multivariable Rational Matrix Functions: Synthesis Constraints Using Reciprocal Electrical Networks*
From Discrete to Continuum Models in Composite Materials
Third Joint SIAM/CAIMS Annual Meetings (AN25)

Teaching Experience *Introduction to Quantum Information Science*
Teaching Assistant
Fall 2025

Advanced Computer Systems
Teaching Assistant
Fall 2024

Advanced Programming
Teaching Assistant
Fall 2024

Programming Language Design
Teaching Assistant
Spring 2023 & Spring 2024

Implementation of Programming Languages
Teaching Assistant
Spring 2023 & Spring 2024

**Seminars and
Workshops**

AN25
Third Joint SIAM/CAIMS Annual Meetings
July 28–August 1, 2025; Montréal, Québec, Canada