

ELIOT H. SOLOMON

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EDUCATION

Rice University

MS in Computer Science (Advisor: Alan L. Cox)

Awards: Rice CS Graduate Research Fellowship (full funding), Louis J. Walsh Scholarship in Engineering

May 2024

Houston, TX

Rice University

BS in Computer Science (Specialization: Computer Systems)

GPA: 3.98, *summa cum laude*

Awards: Outstanding Senior Engineering Student (CS), Rice Engineering Alumni Junior Merit Award, Chevron Scholarship, McMurtry Committee of the Year, McMurtry Academic Award, President's Honor Roll, National Merit Scholar

May 2023

Houston, TX

PUBLICATIONS

Eliot H. Solomon, Yufeng Zhou, and Alan L. Cox. 2023. An Empirical Evaluation of PTE Coalescing. In *The International Symposium on Memory Systems (MEMSYS '23)*, October 2–5, 2023, Alexandria, VA, USA. ACM, New York, NY, USA, 16 pages. <https://doi.org/10.1145/3631882.3631902> ([preprint](#))

TECHNICAL SKILLS

C, C++, Verilog, P4, Python, Java, Kotlin, SQL, Git, L^AT_EX, kernel development, Linux/FreeBSD system administration

RESEARCH EXPERIENCE

RiceArch Group, Computer Science Department, Rice University

May 2021 - present

- Collaborated with Prof. Alan Cox to implement transparent 64KB superpage support into FreeBSD on ARM CPUs ([info](#))
- Wrote efficient kernel code to manipulate page tables in conjunction with a customized reservation-based page allocator
- Investigated the PTE Coalescing feature of AMD's Zen microarchitecture by using empirical performance counter data

Bioinformatics Group, Computer Science Department, Rice University

May 2020 - December 2020

- Evaluated statistical methods for inferring evolutionary networks from genetic data, working under Prof. Luay Nakhleh
- Automated data generation, parsing, and analysis using a computational pipeline built using 2000+ lines of Python code
- Improved result accuracy by running repeated large-scale simulations in a large university cluster computing environment

TEACHING EXPERIENCE

Head Teaching Assistant, COMP 614

Fall 2023

- Produced solution sets used by 3 TAs to teach introductory programming to 60+ new Master of Data Science students
- Created and typeset new exam questions from scratch, covering a mixture of Python, math, and data science content

Head Teaching Assistant, COMP 321

Fall 2022, Spring 2023

- Oversaw the course staff and coordinated grading for an intro computer systems class with 210+ students and 11 TAs
- Implemented tools which reduced the amount of manual intervention needed to autograde programming assignments

Teaching Assistant, COMP 182

Spring 2021, Spring 2022

- Graded homeworks and guided lab sessions for an introductory discrete math and algorithms class with 300 students
- Played an extremely active role on the course's Piazza forum, providing a significant portion of the instructors' answers

Teaching Assistant, COMP 215

Fall 2021

- Held office hours for an object-oriented programming class with 200+ students, emphasising principles rather than answers
- Proofread course exams, helping to eliminate mistakes, potential ambiguities, and timing issues through careful review

Teaching Assistant, MCS Bootcamp

Summer 2020

- Taught discrete math to a group of incoming Rice Master of Computer Science students by leading live problem sessions
- Developed 25 quizzes and 5 problem sets to help optimize learning outcomes for students coming from non-CS backgrounds

LEADERSHIP EXPERIENCE

Office of Academic Advising, Rice University

March 2021 - May 2023

Head Academic Fellow

Houston, TX

- Managed a team of 30+ Academic Fellows at McMurtry College, facilitating peer tutoring events and personalized help
- Conducted interviews to recruit 25+ new Academic Fellows yearly based on their academic merit and interpersonal skills
- Explained computer science concepts to students one-on-one and in small groups, targeting content to individual needs

Rice Computer Science Club

September 2020 - May 2023

Co-President (2022-23), Co-Internal Vice President (2021-22), I/O Committee Member (2020-21)

Houston, TX

- Led a 12-person officer team in charge of planning academic, social, and recruiting events for Rice's largest club and major
- Spearheaded an event series focused on introducing undergraduates to opportunities in the tech industry and grad school
- Improved the club's annual senior exit survey to collect data relevant to departmental diversity and inclusion initiatives

McMurtry College, Rice University

September 2019 - May 2023

Seniors (2022-23), External Socials Head (2021-22), Treasurer (2020-21), First-Year Rep. (2019-20)

Houston, TX

- Coordinated Y2K, the first "public party" at Rice following the COVID-19 pandemic, with 900+ student attendees ([press](#))
- Designed a streamlined expense management system for the \$50K+ yearly budget of a 400+ student residential college
- Researched student needs through focus group sessions to help develop a detailed five-year strategic plan for the college

Technology Sector, Rice Undergraduate Investment Fund

September 2019 - May 2023

Sector Director (2021-23), Senior Analyst (2020-21), Junior Analyst (2019-20)

Houston, TX

- Guided a team of 8 analysts through the process of preparing live stock pitches for Spotify, Airbnb, Roblox, and Datadog
- Constructed an investment thesis central to a successful pitch for Cloudflare focused on edge computing and cybersecurity
- Proposed an investment in Twilio which became the Fund's best-performing stock throughout my first year as an analyst

PERSONAL PROJECTS

MurtPass

Java, jte, PostgreSQL, HTML/CSS/JavaScript

- Built a customized ticketing and access control system tailored to the needs of McMurtry's "public party" Y2K ([press](#))
- Implemented features like Google Sign-In, QR code scanning, an automated waitlist, and a Venmo payment tracking tool
- Deployed the system to a secure Linux cloud server, achieving consistent sub-40ms response times even with 2000+ users

OTHER INTERESTS

Literature, history, economics, current events, geopolitics, playing basketball, watching pro football, all varieties of music