ZACH ROBERS

3839 Sweeten Creek Rd, Chapel Hill, NC 27514 | (919) 358-7130 | zachary.robers@duke.edu

EDUCATION

Duke University   **Aug 2023 – May 2027**
B.S. in Mathematics, Computer Science | Minor in Classical Civilizations   Durham, NC
- **GPA:** 3.94/4.0
- **Honors/Programs:** Angier. B. Duke Scholar (full-ride merit scholarship awarded on "academic leadership and world-changing potential"), University of Oxford: Philosophy and Ethics of AI, Office of University Scholars Advisor Committee, Club Baseball
- **Research:** Hickey BME Lab: constructing a transformer model for tissue generation at the cellular level, Math+ Summer Program: formalizing an analytical and computational math model for the interaction between shallow water waves and an elastic solid, created a machine learning model which placed 4th out of 100+ submissions in the Duke Financial Economics Corporate Valuation Competition
- **Relevant Coursework:** Theory and Algorithms of Machine Learning, Linear Algebra, Data Structures and Algorithms, Computer Systems, Probability, Asymptotics and Perturbation Methods, Machine Learning for Spatial Transcriptomics

University of North Carolina at Chapel Hill   **Aug 2021 – May 2023**
Part-time Studies in Mathematics   Chapel Hill, NC
- **GPA:** 3.95/4.0
- **Honors/Programs:** Applied Math Fluid Dynamics Laboratory (see below), Precision Health and AI Lab, full-tuition merit scholarship
- **Relevant Coursework:** Multivariable Calculus, Differential Equations, Discrete Math, Numerical Analysis, Advanced DEs

East Chapel Hill High School   **Aug 2019 – June 2023**
Valedictorian (Rank 1 of 356)   Chapel Hill, NC
- **GPA:** 4.79 | **SAT:** 1590/1600 (Math: 800, Reading: 790)
- **Honors/Activities:** U.S. Presidential Scholar Semifinalist, Perfect Score (every question correct) on AP Computer Science Exam, Varsity Baseball Starter, ECHHS Alumni Association (see below), National Honor Society

WORK EXPERIENCE

RepVue   **Jun 2023 – Aug 2023**
Software Engineering Intern   Remote
- Developed integrations with the OpenAI API to improve web traffic through LLM-generated content, both creating the product outlines and coding the back-end for integrations
- Audited and improved the RepVue Score Algorithm, a holistic approach to providing a quantitative score to represent the quality of work life at a company
- Collaborated with senior developers and product-team leaders to enhance the company's Ruby on Rails RSpec testing framework

FeedStation   **Jun 2022 – Aug 2022**
Software Development Intern   Durham, NC
- Designed an automated billing system, coded data pipelines, created a Slack bot, C#, SQL, and HTML programming, interacted directly with customers, worked collaboratively with full time developers

UNC-Chapel Hill Applied Math Fluid Dynamics Laboratory   **Jun 2022 – Present**
Researcher   Chapel Hill, NC
- Led a project focused on modeling heat diffusion across complex geometries, utilized partial differential equations, thermal camera imagery, and thermistors to theorize and justify why heat travels faster on a bent path
- Won best undergraduate talk and poster at the Triangle Computational and Applied Mathematics Symposium (TriCAMS)
- Presented at the American Physical Society in Washington D.C. Fall 2023

LEADERSHIP & EXTRACURRICULAR INVOLVEMENT

The Scholastic Artificial Intelligence League (www.sailea.org)   **Dec 2021 – Present**
Chair   Remote
- Grew the nonprofit from 100 to 2k+ members across 4 continents and 22 US states, orchestrated speaker events with professors and executives, created 4 live courses on AI and CS, expanded resource offerings, orchestrated a grant for AI clubs, assembled a worldwide leadership team

The East Chapel Hill Alumni Association (www.echhsalumni.org)   **Jan 2022 – Present**
Founder, Chair   Chapel Hill, NC
- Created a mentorship program where alumni mentor current students, managed a fundraising initiative for campus beautification which has raised over $6k, acquired alumni contacts, designed website, established a social media presence, curated a blog, recruited student and alumni leaders, currently chair the board of directors

SKILLS AND INTERESTS

- **Skills/Certifications:** Mathematical Modeling, Java, Python, PyTorch, C, C#, Ruby, MATLAB, Nonprofit Leadership
- **Interests:** Weightlifting, baseball, fantasy football, word puzzles, baking, walks with my golden retriever