CHASE VAN AMBURG

MATHEMATICAL BIOLOGIST | SOFTWARE ENGINEER

EDUCATION

HARVARD UNIVERSITY
2023 – 2024
M.S. in Applied Math
GPA: 4.0

HARVARD UNIVERSITY
2020 – 2024
B.A. in Integrative Biology
Minor: Computer Science
GPA: 3.97

AWARDS + GRANTS

Awards
Phi Beta Kappa (2024), John Harvard Scholar (2022, 2023), Detur Book Prize (2022)

Grants
Mittal Institute (2023), Museum of Comparative Zoology (2022)

SPECIALTIES

Programming Languages
Python, JavaScript, Java, HTML/CSS, C++

Machine Learning
Torch, TensorFlow, Geometric ML, Scikit-Learn, Jax, MLOps [GCP/Kubernetes/Docker]

Biology
Ecology, Evolution, Population Genetics, Wet Lab (Cellular/Molecular)

Miscellaneous
Design, Visualization [D3, React], Developing Regions

INTERESTS

Evolutionary Dynamics, Theories of Intelligence, Animal Behavior, Music, Game Design

RESEARCH

KEMPNER INSTITUTE Mar 2025 – Present
Researcher | Boston, MA

- Developed rigorous experimental design and visual analytics tools for a large-scale RL-based evolutionary simulation of intelligence under the guidance of Dr. Aaron Walsman

SALATA CLIMATE INSTITUTE Mar 2023 – Jan 2024
Researcher | Cambridge, MA + Gujarat, India

- Led a global health study with the largest women's union in the world (SEWA) to demonstrate climate inequity and drive policy change
- Detected up to 15 ˚C discrepancies between our measured data and currently available weather information in Gujarat, India
- Built the foundation for an ongoing study with thousands of participants, at the intersection of urban climates and public health

NAOMI PIERCE LAB Dec 2021 – Dec 2023
Researcher | Cambridge, MA

- Collected ecological data from 17,000+ trees in Kenya
- Trained a computer vision classifier on LiDAR tree canopy data, leading to a publication
- Modeled temperature variations across trees in the survey area with a coupled energy-balance model

PROFESSIONAL EXPERIENCE

FATHOM INFORMATION DESIGN Aug 2024 – Present
Designer, Developer | Boston, MA

- Engineered pathogen surveillance systems for national public health agencies
- Developed interactive charts [JS, D3.js] and refined an Elixir-based backend for Rowboat, a spreadsheet visualizer built in C++ with a Wasm layer for in-browser use

TEACHING Jan 2020 – Present
Teaching Fellow, Mentor

- Harvard:
  Head course assistant for intensive first-year quantitative biology
  Head teaching fellow for graduate evolutionary dynamics seminar
  Teaching fellow for graduate machine learning capstone course
- Curious Cardinals:
  Mentor for high school student passion projects
- Other:
  Volunteer teacher for students who recently immigrated to the US