Anthony Zhou

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EDUCATION

Columbia University   New York, NY
B.A. in Computer Science, Columbia College   *Sep 2021 — May 2025*
- Cumulative GPA: 3.99/4.0 | Dean's List
- **Relevant Coursework:**
  - ‣ **Computer Science**: Natural Language Processing, Analysis of Algorithms, Data Structures, Distributed Systems
  - ‣ **Social Science**: US Political Economy, Contemporary Civilization, Cognitive Science
  - ‣ **Mathematics**: Probability, Computational Linear Algebra, Modern Analysis

Oxford University   Oxford, UK
Visiting Student in Experimental Psychology, St Edmund Hall   *Jan 2024 — Jun 2024*
- Relevant Coursework: Perception, Memory & Cognition, Social Psychology

WORK EXPERIENCE

Reazon Human Interaction Lab   Tokyo, Japan
Project Lead   *Jun 2024 — Aug 2024*
- Proposed and developed a home fitness device for older adults from scratch in 10 weeks.
- Managed $1 million R&D budget and team of 6 to design, develop, and test the product.
- Deployed infrared remote control interface, Japanese speech and transcription APIs, and ML rep counting system.
- Tested the hardware product via in-depth interviews with 20+ older adults in Japan.
- Pitched to company executives and approved for continued project funding.

LEAP (Learning the Earth with AI and Physics) Center at Columbia University   New York, NY
Research Intern   *Jun 2023 — Dec 2023*
- Led project to modernize climate model code, resulting in published paper and presentation at NeurIPS 2023.
- Translated photosynthesis module from Fortran to Python/JAX as proof-of-concept for modernizing 500k-line codebase.
- Developed automated translation pipeline using static analysis and large language models.
- Implemented gradient-based parameter optimization for key biological variables.
- Achieved 100x speedup through GPU parallelization of core numerical algorithms.

Snow Labs   Menlo Park, CA
Co-Founder, CTO   *Oct 2021 — Aug 2022*
- Received $50,000 in funding as part of Floodgate Fund's startup incubator program.
- Conducted 50+ customer interviews to understand market needs in consumer social and climate tech.
- Launched a social curation app for books, movies, and restaurants with 100+ users within 1 month.
- Prototyped a low-cost sensor network for community-level air quality monitoring and secured 10 paid preorders.

Big & Mini   Austin, TX
Co-Founder, CTO   *Apr 2020 — Apr 2022*
- Founded bigandmini.org to combat social isolation by matching elderly and young people for video conversations.
- Led team of 5 engineers to develop web and mobile apps, implementing serverless architecture and NoSQL database.
- Built core features including user accounts, messaging, matching system, and analytics dashboard.
- Scaled to 6000+ users from 60 countries and secured $100k+ in funding.
- Featured in 20+ major media outlets including the Today Show, the New York Times, and the Washington Post.

COMMUNITY SERVICE

Big & Mini   Apr 2020 — Apr 2022
- Co-founded and developed a platform connecting young and older adults during COVID-19 to combat social isolation.
- Scaled from a concept to a community that facilitated thousands of intergenerational connections.

Columbia Effective Altruism   Sep 2021 — Dec 2022
- Designed and led Effective Environmentalism Fellowship program for 30 students across two discussion sections.
- Developed comprehensive curriculum on environmental interventions and impact analysis.

- Co-facilitated AI Safety and Introductory EA Fellowship sections for 20+ students.

Khan Academy Translation   Aug 2018 — Aug 2021
- Translated 150,000+ words of educational content in computer science, physics, and math from English to Chinese.
- Reviewed 40,000+ words as proofreader, providing detailed feedback to improve translation quality.
- Dedicated 140+ hours to expanding access to free STEM education for Chinese-speaking students.

TEACHING EXPERIENCE

Technical Workshop Lead, Columbia DevFest   Aug 2023 — Jan 2024
- Designed and taught workshop curriculum for 100+ students on full-stack development fundamentals.
- Led team of 10 teaching assistants to develop interactive coding exercises and mentorship program.
- Created hands-on web development curriculum covering React, Python, and cloud deployment.

Teaching Assistant, Analysis of Algorithms   Sep 2023 — Dec 2023
- Held weekly office hours providing one-on-one help with algorithm design and complexity analysis.
- Collaborated with course staff to grade assignments and exams for 150-person upper-level CS course.

PUBLICATIONS & PRESENTATIONS

Publications:
- **Zhou, A.**, Hawkins, L., Gentine, P. (2024). "Proof-of-concept: Using ChatGPT to Translate and Modernize an Earth System Model from Fortran to Python/JAX." *arXiv:2405.00018.*
- Xu, L., Fields, N.L., Chen, Z., **Zhou, A.**, et al. (2022). "Big and Mini: A Promising Intergenerational Program for Social Connections." *International Journal of Environmental Research and Public Health*, 19(8), 4566.

Conference Presentations:
- **Zhou, A.**, Hawkins, L., & Gentine, P. (2023, December). "Using ChatGPT to Modernize an Earth System Model." NeurIPS 2023 Climate Change Workshop, New Orleans, LA.
- **Zhou, A.**, Hawkins, L., Vondrick, C., Lawrence, D., Chuang, W., & Gentine, P. (2023, July). "Using ChatGPT to Translate CLM from Fortran to Python." NCAR Working Meeting, Virtual.

AWARDS

- Accepted into Y Combinator startup accelerator (2024)
- Dean's List, Columbia College (2021, 2022, 2023)
- Fowler Global Social Innovation Challenge (GSIC) - Second Place (2021)
- Prudential Spirit of Community Award (2021)
- AWS US University Startup Competition Winner (2020)
- Points of Light Youth Summit Pitch Contest Winner (2020)

SKILLS

- **Scientific Computing**: NumPy, SciPy (data analysis), JAX, Pandas, Matplotlib (plotting), scikit-learn.
- **Programming Languages**: Python, JavaScript, C++, Java, SQL, Golang, Dart, Elixir.
- **Frameworks**: PyTorch, React, Next, Tailwind, Flutter, Node, GraphQL, Serverless, FastAPI.
- **Developer Tools**: Git, Bash, UNIX, Docker, PostgreSQL, Vercel, AWS (Lambda/Dynamo/EC2).