Holly Mandel

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Math PhD and former high-frequency trading quant interested in AI engineering and research

EDUCATION

University of California, Berkeley   2017–2022
PhD, Mathematics
    Degenerations of Negative Kähler-Einstein Surfaces (Mandel, J. London Math. Soc.)

Yale University   2010–2014
BS, Biology
    Phi Beta Kappa, *summa cum laude*, distinction in the major

EMPLOYMENT

Vatic Labs, Quantitative Researcher   June 2022–May 2024
- Developed machine learning trading strategies, researched and onboarded new datasets as part of the statistical arbitrage team
- Designed and implemented an automated pipeline controlling an aspect of trading execution as part of the high frequency trading team

Clark lab, Yale MCDB, Research Associate   June 2014–August 2015
- Ran experiments and performed analysis to extract second- and third-order kernels representing fruit fly visual motion detection (Salazar-Gatzimas et al., Neuron)
- Related nonlinearities in fly motion detection to natural scene statistics (Chen et al., eLife)
- Analyzed fluorescent imaging movies of fly neurons during motion detection tasks

MACHINE LEARNING EXPERIENCE

- 2 years developing, validating, and deploying machine learning models for trading at Vatic
- Ran experiments to locate induction heads in Mistral 7B and then measure the effect of ablating them on a question-answering task
- Built a recursive code navigator and explainer using Python's ast module and Claude

FELLOWSHIPS AND PRIZES

Eliciting Latent Knowledge Contest prizewinner, Alignment Research Center, joint with Jacob Hilton	2022
Graduate Research Fellowship, NSF	2017
Presidential Fellowship and School of Arts and Sciences Excellence Fellowship, Rutgers University, for doctoral study in mathematics (attended 2016–2017)	2016
Academic Excellence Award, Rutgers department of mathematics, for earning highest score on written qualifying exam which I took early as an entering student	2016
Full funding and stipend from Smith College, NSF to attend Smith Post-Baccalaureate Program for Women in Mathematics (attended 2015–2016)	2015
William R. Belknap Prize for Academic Excellence in Biology, Yale Department of MCDB	2014

SKILLS

Languages: Python (experienced): PyTorch, Pandas; C++ (familiar); MATLAB; LaTeX

Tools: Git/GitHub; Mathematica