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| Education | <ul style="list-style-type: none"> ◦ BA, Cornell University, cum laude in mathematics, May 2001 ◦ PhD, University of California at Davis, mathematics, Dec 2007 ◦ MS, Rutgers, mathematical finance, Jan 2014 |
| Employment | <ul style="list-style-type: none"> ◦ LoanStreet Inc. 2018 - current, <i>Software engineer for financial technology</i> <ul style="list-style-type: none"> • Gather and translate requirements for loan trading business into technical specs. • Complete rebuild of Django backend, using a new data processing flow which ensures greater accuracy and closer adherence to business logic. ◦ MIO Partners (McKinsey & Co subsidiary) 2016 - 2018, <i>Quant developer for trading</i> <ul style="list-style-type: none"> • Created Python-based portfolio management tools which are used interactively for analysis and as components in report-generation processes deployed in Docker containers. • Created and maintained daily trading opportunity charts reviewed by the CEO. Data was processed from a variety of sources including emails and databases. • As project manager, gathered requirements for a web app (React JS and Python), coded back-end computations, and managed two front-end developers. ◦ JP Morgan Chase 2015 - 2016, <i>Quant developer for regulatory capital</i> <ul style="list-style-type: none"> • Automated Excel and Access-based manual processes as robust server processes using proprietary Python-based environment (Athena). • Worked on back-end processes and event-driven GUI design, following the Agile methodology, including thorough test coverage. • Frequent communication and signoffs from business users were required, with careful documentation showing accuracy of results. ◦ Nomura 2014 - 2015, <i>Front office developer for electronic trading</i> <ul style="list-style-type: none"> • Created a low-latency order book generator that used Tibco Rendezvous to aggregate market-data and pricing and communicate with smart order router and GUI (Java/Linux). • Primary maintainer of automated market-maker for USD swaps and swap futures. • Created a FIX trade feed from ION trading platform into trade management system. ◦ Nomura 2013, <i>Intern for equities connectivity team</i> ◦ University of California, Davis 2012 Lecturer <i>Head instructor for courses in calculus, linear algebra, and probability</i> ◦ Bard College, BHSEC program 2009 - 2011, Assistant Professor <i>Oversaw the development of accelerated math curriculum for early college program.</i> ◦ University of Victoria 2008 - 2009, PIMS Postdoctoral Fellow <i>Conducted mathematical research in low-dimensional topology</i> |
| Skills & Abilities | <ul style="list-style-type: none"> ◦ Able to self-manage and rapidly iterate while gathering and updating requirements. ◦ Programming languages: Python, Java, C ◦ Work experience in a Linux server environment, using Unix tools (grep, awk, sed, vi(m), etc.) ◦ Able to digest new quantitative literature from a top-down, conceptual viewpoint |
| Papers | <ul style="list-style-type: none"> ◦ “Boundary-Twisted Normal Form and the Number of Elementary Moves to Unknot”, <i>New York J. Math</i> 18 (2012) 389-408. ◦ “The Unknotting Problem and Normal Surface Q-Theory”, <i>Journal of Knot Theory and Its Ramifications</i>, accepted for publication |
| Fellowships & Scholarships | <ul style="list-style-type: none"> ◦ Pacific Institute for the Mathematical Sciences Postdoctoral Fellowship ◦ National Science Foundation VIGRE Fellowship (4 years) ◦ Rutgers MSMF Gary Chropuvka Scholarship Award |
| Personal | <ul style="list-style-type: none"> ◦ Naturalized U.S. Citizen; moved to the U.S. at age eight. |