

Kara Quine
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Experience	UCSF - Manoli Lab November 2019-2024 <i>Specialist (Researcher/Engineer)</i> <i>Behavioral neuroscience laboratory using voles to study social attachment</i> Volunteer from 2019-2022 concurrent with education, FTE 2022-2023 Research engineering to support Manoli Lab members - automation of behavioral scoring/ethology for many of our more time-consuming assays, reducing scoring labor requirements 8-10x for partner preference tests, more for other assays. On-going collaboration with Shuyu Wang, MD, PhD, on unbiased methods for social behavioral scoring with multi-camera and depth-aided vision systems. Training lab members on tools, data analysis using python, version control systems, offering input on purchasing decisions and apparatus design. Build hardware to support simultaneous multi-camera capture. Building segmentation networks and tracking tools for social behavior.	San Francisco
	Mills College Fall 2020 <i>Teaching Assistant - Genetics</i> Ran meetings for course staff, conducted exam reviews, offered TA office hours and tutoring for students, prepared practice problems, test audience for exams.	Oakland, CA
	Mode Analytics June 2017-August 2019 <i>Senior Software Engineer, Backend</i> Identify and act on priorities in back-end service engineering. Anticipate future scaling issues and resolve ahead of need. Design, build, improve, maintain microservices to meet business goals. Major focuses: improving engineering practices, fault analysis, implementing triage processes for product issues, service dispatch over SQS & ZooKeeper, improving reliability and performance. Added interactive python3 notebook support into service. Harden services against malicious clients, improve relevance of metrics, document system behaviors and possible signs of pathology and build appropriate alerting. Integration with database systems. Mentoring, training, and presenting. golang, python, R, ZooKeeper, SQS	San Francisco
	Blend Labs May 2015-September 2016 <i>Developer, Backend, data-model, and security</i> Engineering. Designed and built data model interfaces for loan application platform. Front-end and back-end work. Built encrypted loan archive feature. Lead	San Francisco

for infrastructure verification, authentication and encryption capabilities. Numerous audits and improvements in performance and reliability. Node.js, angular, MongoDB

Self-Employed

Los Angeles

January 2014-April 2015

Software contracting, R&D consulting services, as below at PlusMetric, Inc (same customers, similar work).

PlusMetric, Inc

Tokyo, Japan

November 2012-December 2013

Founder/Researcher/Engineer, Software contracting and R&D consulting services
Software contracting services, including networking applications, analytical tools, a subscription payment system, new technologies, assorted utilities. Prototyped products on behalf of clients, provided analyses of product viability. Investigations, reports, presentations to customers, technical writing, information security services, other misc services.

Ntrepid Corporation (formerly Abraxas Corporation)

Herndon, VA

October 2009-October 2012

Researcher/Engineer/Misc, Internet Mapping & Nonattribution Technologies

Ran internet mapping project, developed privacy tools and critical infrastructure for non-attribution services offered by the company. Reverse engineering work for misc teams, technical guidance for a number of projects, advised on technology purchases. Presented to customers. Technical writing. Designed and built high-OPSEC work environments. Future product planning. R&D work, in addition to more traditional software development (network services, Windows, linux development, rapid prototyping, analytical tools).

Microsoft Corporation

Redmond, WA

June 2005-September 2009

Software Development Engineer I & II, Core OS Development

Developed Installer Detection feature and associated heuristics for Windows Vista, other OS work in support of User Account Control (UAC) for Vista. Debugged misbehaving 3rd party applications, wrote application compatibility shims. Miscellaneous changes to other core OS features. Development and investigations related to OS integrity, extensibility management, application deployment, a new application model, streaming applications (without the install).

Products: Windows Vista, Vista SP1, Windows Server 2008, Windows 7

University of Southern California

Marina del Rey, CA

Summer 2003

Student Intern, Information Sciences Institute (ISI)

Developed analytical capabilities for a massively distributed JSAF (Joint Semi-Automated Forces) simulation

California Institute of Technology

Pasadena, CA

Summers 1998-2000

Research Assistant, Center for Advanced Computing Research (CACR)

K-12 Beowulf Project 'Hrothgar'.

Project to bring low-end supercomputing into K-12 teaching environment through various simulations of educational value.

Constructed a small Beowulf cluster and wrote educational simulations using MPI.

Education	Touro University California - College of Osteopathic Medicine	Vallejo, CA
	July 2024-present	
	D.O. candidate	
	President, TUCOM Med Students with Disabilities and Chronic Illness chapter	
	2024-2025	
	Co-President, TUCOM Psychiatry Interest Group	2024-2025
	Mills College	Oakland, CA
	August 2019-June 2021	
	Certificate in Biochemistry & Molecular Biology (GPA 4.0)	
	Retraining in biology. Senior Thesis - Review of technical problems in lab-setting computational ethology	
	TA for Genetics, Fall 2020.	
	Massachusetts Institute of Technology	Cambridge, MA
	Graduation: June 2005	
	Bachelors of Science, Computer Science and Engineering (VI-3).	
	Humanities Concentration: East Asian Studies	
Software Development		
	Development: GNU/Linux/misc, Windows	
	python, golang, C/C++, Node, R, sockets, AWS (SQS, S3, etc), microservices,	
	Scientific computing, distributed systems, statistics	
	Windows internals, Win32, COM, perl, SQL, mongo	
	OpenSSL, X.509/PKI, Java, misc. reverse engineering	
Awards	Winner, Fall 2004 MIT 6.035 Compiler Derby	
	<i>Compilers compete in the MIT 6.035 Compilers course.</i>	
	Best Gameplay, January 2005 MIT 6.370 'Robocraft' Tournament	
	<i>Teams of students compete to build computer players for a real-time strategy game.</i>	
Patents	Client application independent extensibility model (US 8667514) (Microsoft)	
	Predictive Software Streaming (US 9043782 B2) (Microsoft) (uncredited at my request)	
Papers	Preprint: Identity-stable multi-animal tracking using bidirectional segmentation with object-level memory (2nd author)	
	https://preprints.kavlimeetings.org/2025/09/25/all/neuro/ucsf/238909/	
Languages	English (native)	
	Japanese (JLPT Level 2 Certification)	
	Hungarian (beginner)	

Misc

US Citizen