JONATHAN GUIANG

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Languages · Python, C++, C#, JS, SQL, Bash, HTML/CSS · **Packages** · PyTorch, Tensorflow, Keras, XGBoost, pandas, Numpy, Scikit-learn, Flask · **Tools** · Docker, Kubernetes, Git, VIM, CUDA, React

EXPERIENCE

Data Scientist with a PhD in Physics serving as the Tech Lead for AI-powered nutrition features at Dexcom. Passionate mentor and aspiring leader with years of experience in teaching and promoting excellence.

Senior Data Scientist/ML Engineer, Dexcom *Jul. 2024 - Present*

- Engineered the AI behind the Smart Food Log feature deployed to the G7 and Stelo apps used by millions of people, massively improving engagement with the meal logging feature.
- Designed, prototyped, and championed the entire nutrition AI R&D roadmap; managed a team of 4 engineers and worked directly with product owners, VPs, and C-suite executives, resulting in at least 3 additional AI/ML-based features slated for production release by Q4, 2025.
- Trained and optimized a modified LSTM that delivers actionable insights allowing Stelo users to take control of their health with limited data, driving increased engagement and product adoption.
- Led the development of an internal mobile app used to test new AI-based features; expanded access to over 100 new users, driving interest and confidence in AI features now in production.
- Implemented a multithreaded pipeline for assessing the performance of LLMs and curated a large multimodal dataset for it (10k examples), yielding trustworthy metrics used in FDA review.
- Overhauled the team's LLM codebase with comprehensive unit tests, template code, and CI/CD automations, reducing feature turnaround time (idea to production) from 1 month to 1 week.

Graduate Researcher, UC San Diego *Mar. 2020 - Jun. 2024*

- Led the training of a deep neural network with a specialized loss function tailored for high-precision particle physics. Achieved a significant 50% reduction in systematic uncertainty.
- Engineered a deep neural network to discern particle trajectories from point clouds (100k points) within a GPU-accelerated C++ algorithm. Resulted in a notable 40% decrease in false positive rate.
- Designed and implemented a "smart networking" solution facilitating the global dissemination of exabytes of LHC data. Deployed demonstration and benchmarking testbeds with Kubernetes.
- Architected a robust C++ framework now used at 4 universities for processing petabytes of LHC data across globally distributed computing systems. Supervised a team of 2 junior developers.
- Directed operations for 3 petabytes of physics data at the UCSD "Tier-2" computing facility.

Director, EXPAND Program, UC San Diego *Jan. 2020 - Jun. 2024*

- Co-founded a program that provides underserved undergraduates with research opportunities.
- Grew the program from inception to one of the top-3 funded programs at the UCSD Student Success Center and directed the program coordination team.
- Helped over 40 students secure full-time positions (Raytheon, Thermo Fisher), internships (Apple, NASA JPL), admission to graduate programs (UPenn, UCLA, UCSD), and publications.

Student Developer, Google Summer of Code *May 2019 - Sep. 2019*

- Built a pipeline that retrieves LHC data access records via Spark SQL and displays metrics on a Grafana dashboard, enabling engineers to identify previously invisible problems and inefficiencies.

EDUCATION

University of California, San Diego San Diego, CA
PhD in Physics, MS in Physics *2019 - 2024*

University of California, Santa Barbara Santa Barbara, CA
BS in Physics *2015 - 2019*