JERRY PAN

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EDUCATION

University of California, Berkeley Expected: Dec 2022
B.A. in Computer Science (Dean's List for all semesters offered) Cumulative GPA: 3.95
Relevant Coursework: Multivariable Calculus, Linear Algebra & Differential Equations, Functional Programming, Data Structures & Algorithm, Computer Architecture, Discrete Mathematics and Probability Theory, Data Science, Advanced Probability Theory, Efficient Algorithms and Intractable Problems, Database Systems, DeepLearning.AI, Machine Learning, Operating System

INTERNSHIP & RESEARCH EXPERIENCE

Amazon Seattle, WA
Incoming Software Engineering Intern *May 2022-Aug 2022*

UC Berkeley RISE Lab Berkeley, CA
Undergraduate Researcher *Oct 2021-Present*

· Built Large Language Model inference benchmark for GPT2, Transformer-XL with varied configs in PyTorch.
· Implemented cache mechanisms for transformer self-attention layer with reinvented cached linear layers .
· Improved theoretical runtime from $O(n^2)$ to $O(n)$ and empirical inference runtime 13X with 2X memory tradeoff.

Sophon Tech - HFI.one & HYFI.pro Beijing, China
Software Engineering Intern *May 2021-July 2021*

· Implemented and Deployed auto-compounding and value-locking algorithm in smart contracts in Solidity.
· Fixed the bouncing front-end APR bugs by designing a moving weighted-average algorithm for profit calculation.

University of Cambridge - Behavioral and Clinical Neuroscience Institute Cambridge, UK
Undergraduate researcher *Dec 2020-May 2021*

· Used Hidden Markov Model to segment 200GB fMRI and EEG experimental data into sleep hidden states.
· Optimized HMM inference and PCA on fMRI and EGG time series with over 20K entries with HDF5 data-loader.

Stanford University Biology Department - Fraser Lab Stanford, CA
Research Intern (Genomics Research Internship Program at Stanford) *July 2019-Aug 2019*

· Applied Peak-to-Trough Ratio Algorithm on metagenomics datasets with statistical significance in visualization.
· Built a pipeline in Nextflow for parallel computation on clusters with speedup over 120X for genome assay.

PROJECTS

Full-stack NFT Mystery Box Game Platform (PyTorch, React, Figma, Solidity)
Backend Engineer and Product Manager *July 2021-Jan 2022*

· Web-crawled source photos, applied the CycleGAN model on backgrounds to auto-synthesize product images.
· Took the lead to polish MVP to build on different chains while adapting to different APIs for hackathon hosts.
· Won **1st Prize** in NFT Vision Hackathon As the Best Scalable NFT Art Project

TECHNICAL STRENGTHS

Languages	Python, Java, Unix/Linux, C/C++, R, MatLab, SQL, HTML/CSS/JavaScript
Technologies	Git, Node.js, React.js, Express, MongoDB, Redis, Django, PyTorch

ADDITIONAL INFORMATION

Member @ IEEE UC Berkeley, Berkeley UPE Honor Society, Fintech@Berkeley

BCAIA Scholarship - awarded $23750 for the 2020-2021 academic year

Interests & Hobbies: YouTuber, Workout, Half-Marathon, Swimming, Chess, Jazz drum, Investment