

Piyush Datta

Website: <https://www.piyushdatta.com> |
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Work Experience

Meta	San Francisco Bay Area, CA
<i>Software Engineer</i>	2025 – Present
<ul style="list-style-type: none">Core engineer on Meta Ads Infrastructure, developing low-latency C/C++ services powering global ad delivery.Designed large-scale ML calibration systems that increased revenue by ~\$10M/year and reduced fleet CPU usage by 2-3% across services handling millions of RPS.	
Amazon Web Services	San Francisco Bay Area, CA
<i>Software Engineer</i>	2020 – 2025
<ul style="list-style-type: none">Database kernel (MySQL/Postgres) engineer on the AWS Aurora Database Engine team using C/C++.Core engineer on the new <i>Aurora Limitless</i> product, presented at 2024 re:Invent (https://aws.amazon.com/about-aws/whats-new/2023/11/amazon-aurora-limitless-database/).Led initiatives to create a sharded distributed storage engine capable of handling more than 1M TPS.	
Givex	Toronto, ON
<i>Software Engineer</i>	2019 – 2020
<ul style="list-style-type: none">Backend development using Python, JavaScript, C/C++, PostgreSQL, and Unix.Implemented gift card, point-of-sale, and other transaction-based solutions for Fortune 500 companies.	

Contributions & Projects

1st Place – Google Technology Prize, Hack for Social Impact 2025	https://devpost.com/software/doorway
<i>Python, React Native, Node/Express, Google Cloud</i>	
<ul style="list-style-type: none">Created a fully functional cross-platform app that acts as an AI assistant for youth facing homelessness.Enabled users to chat with the AI assistant via text or speech; the assistant could also place phone calls to agencies on the user's behalf without using the user's phone number.	
1st Place – Novice Champion, LLM Chess Hackathon (StrongCompute)	https://github.com/PiyushDatta/chess-hackathon
<i>Python, PyTorch, TensorBoard</i>	
<ul style="list-style-type: none">Trained a 3M-parameter vision-LLM agent from scratch using 8xH100s, FlashAttention, FSDP, GELU, and AMP.Won Novice Champion by having my LLM agent defeat other LLM agents in 1-on-1 chess matches (100-move max).	
Amazon Patent (Pending) – AWS Aurora AI/RL-Based Database Configuration System	
<ul style="list-style-type: none">Lead designer and inventor of a database configuration system that automatically predicts optimal database configurations based on customer workloads using AI reinforcement learning techniques.	

Contributor to TensorFlow – Google Brain Open-Source Project	https://www.tensorflow.org
<i>C/C++, Python</i>	
<ul style="list-style-type: none">Contributed to an open-source project enabling developers to create and train ML models.	

Skills

Technologies/Concepts: C/C++, Rust, Python, JavaScript/TypeScript, Distributed Systems, IPC, 2PC, ML/AI, LLM, Reinforcement Learning, Consensus Algorithms, NewSQL/Distributed SQL

Education

University of Toronto, St. George Campus

Toronto, ON