Piyush Datta

**Website:** [https://www.piyushdatta.com](https://www.piyushdatta.com/) **GitHub:** <https://github.com/PiyushDatta> **Email:** [piyushdattaca@gmail.com](mailto:piyushdattaca@gmail.com)

**Work Experience**

**Amazon Web Services** San Francisco Bay Area, CA

*Software Development Engineer II* April 2022 – Present

*Software Development Engineer I* June 2020 – April 2022

* Backend development work with AWS Aurora Database Engine team using C/C++
* Core engineer on new Limitless product for Aurora which was presented and explained at 2024 re:Invent (<https://aws.amazon.com/about-aws/whats-new/2023/11/amazon-aurora-limitless-database/>)
* Focused on creating a distributed storage engine that can handle distributed transactions and queries
* Filed a patent as lead engineer in a solution using a RL based AI model to predict optimal database configs
* Part of core Aurora MySQL team that worked on recent major version, Aurora MySQL 3 (MySQL 8.0)

**Givex** Toronto, ON

*Software Developer* February 2019 – January 2020

* Backend development work with Python, JavaScript, C/C++, PostgreSQL, and Unix
* Implemented gift card, point of sale and other transaction-based solutions for Fortune 500 companies

**Contributions & Projects**

**LLM Chess Hackathon – StrongCompute** <https://github.com/PiyushDatta/chess-hackathon/tree/working_branch_march_2025>

*Python, Pytorch, Tensorboard*

* Trained a 3M param vision LLM agent from scratch using 8 H100s, flash attention, FSDP, GELU, and AMP
* Won novice champion by having my LLM agent beat other LLM agents at 1on1 chess matches (100 max moves)

**Amazon patent (pending) – AWS Aurora AI/RL based database configuration system**

* Lead designer/inventor of a database configuration system that can automatically predict the most optimal database configurations based on customer database workloads, using AI reinforcement learning techniques

**TensorFlow – Google Brain Open-source Project** https://www.tensorflow.org/

*C/C++, Python*

* Contributor for open-source project to help developers create and train machine/deep learning models

**Two Sigma - Artificial Intelligence (AI) Competition - Halite 2** [https://halite.io](https://halite.io/)

*Python, TensorFlow, NumPy*

* Used an artificial neural network to train and teach my bot to beat other bots in a virtual game created by Two Sigma (Ranked top 10% of players in Halite 2)

**DattaBot – Artificial Intelligence (AI) LLM Bot** https://github.com/PiyushDatta/DattaBot

*Python, PyTorch*

* Created a transformer LLM model, API, and bot. Uses latest PyTorch features, error and debugging logging, easy model hyperparameters and configurations, and much more.

**Skills**

**Technologies/Concepts:** C/C++, Rust, Python, JavaScript/Typescript, Distributed systems and transactions, IPC, 2PC,

Neural Networks (AI), Reinforcement learning, LLM, Consensus algos, NewSQL/Distributed SQL

**Education**

**University of Toronto, St. George Campus** Toronto, ON 2014 – 2018