Piyush Datta

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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
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