NEEV PARIKH

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EXPERIENCE

Software Engineer II   Jul 2022 - Present
Stripe   *San Francisco, CA*
- Built LLM and ML-based customer insights platform, with per-customer predictions and calculated business metrics.
- Built polished data-repair tooling for self-serve, developer use, which drove self-serve repairs from **60% to 90%**, increased system adoption from **40% to 60%**, and saved **120 hours** per year.
- Built high-performance, **5min** time-to-alert, automated testing system in Java, with instrumented metrics like availability and latency.
- Built terabyte-per-hour scale, Hadoop-based data pipelines in Scala Spark to ingest financial data in a double-entry, event-based, immutable log.

Research Engineering Intern   May 2021 – Aug 2021
Common Sense Machines   *Boston, MA*
- Implemented large-scale, auto-regressive Seq2Seq models for working with 3D geometry from images.
- Worked with Deepspeed to explore scaling options for **500M+** param models to feasibly scale existing sequence-based models.
- Implemented a Blender-based Gym environment for reinforcement learning to optimize textures on a 3D model.
- Implemented a graphics algorithm to find surface patches in a 3D wireframe (Zhang et. al., 2013)
- Dockerized AWS pipeline to create cloud-independent dev/production environment.

Research Assistant   Jun 2020 – May 2022
Brown University   *Providence, RI*
- Worked on original research on unsupervised, representation learning and multi-task reinforcement learning.
- M. Merlin, S. Parr, et al. (May 2024). "**Robot Task Planning Under Local Observability**". In: Proceedings of the 2024 IEEE Conference on Robotics and Automation.
- C. Allen, N. Parikh, and G. Konidaris (Dec. 2021). "**Learning Markov State Abstractions for Deep Reinforcement Learning**". In: 34th Neural Information Processing Systems Conference 2021.
- K. Asadi, N. Parikh, R. Parr, G. Konidaris, and M. Littman (Sept. 2020). "**Deep Radial-Basis Value Functions for Continuous Control**". In: 35th AAAI Conference on Artificial Intelligence 2021.
- N. Parikh*, Z. Horvitz*, N. Srinvasan*, A. Shah, and G. Konidaris (Oct. 2020). "**Graph Embedding Priors for Multi-task Deep Reinforcement Learning**". In: NeurIPS 2020. KR2ML Workshop.
- M. Merlin, N. Parikh, E. Rosen, and G. Konidaris (May 2020). "**Locally Observable Markov Decision Process**". In: International Conference on Robotics and Automation. Workshop on Perception, Action, Learning.

Machine Learning Intern   Jun 2019 – Aug 2019
Myelin Foundry   *Bangalore, India*
- Developed a cutting-edge, deep-learning based pipeline in Pytorch and Tensorflow to augment VFX workflows for a POC product.
- Researched and managed a company-wide, cloud-compute platform, reducing potential monthly costs by **70%**.
- Implemented DeepLabv3+ from **ECCV 2018** to develop SOTA pipelines for semantic segmentation tasks.
- Achieved **90%** in business-aligned metrics with reasonable inference time.

EDUCATION

Brown University   Aug. 2018 – May 2022
M.Sc. in Computer Science (concurrent) · **GPA**: 4.0   *Providence, RI*

Brown University   Aug. 2018 – May 2022
B.Sc. in Computer Science (concurrent) · **GPA**: 3.9 (magna cum laude)   *Providence, RI*

Skills: Pytorch, Python, Machine Learning, Rust, C++, Slurm, AWS, Azure, Numpy, Golang, C, Tensorflow, GCP, Docker, Git, Java, Scala, Spark, Hadoop

PROJECTS

Hierarchical Doom: High-throughput, distributed RL project to implement async. PPO-OC (Proximal Policy Optimized - Option Critic) on the VizDoom environment (link)

IP/TCP: Implements the IP/TCP system on an abstracted virtual link layer in Rust, with split horizon and poison reverse (link)

Volumetric Photon Mapping: Implements volumetric photon mapping by extending an open-source, Rust-based path tracer, based on Bitterli et. al. (presentation) (link)