

# NEEV PARIKH

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## EXPERIENCE

### Software Engineer II Stripe

📅 Jul 2022 – Present  
📍 San Francisco, CA

- Building a ML-based sales and marketing platform.
- 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 Common Sense Machines

📅 May 2021 – Aug 2021  
📍 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 RL 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 Brown University

📅 Jun 2020 – May 2022  
📍 Providence, RI

- Worked on original research on unsupervised, representation learning and multi-task reinforcement learning; see publications.

### Machine Learning Intern Myelin Foundry

📅 Jun 2019 – Aug 2019  
📍 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.

## PUBLICATIONS

\*equal contribution

- N. Parikh\*, Z. Horvitz\*, N. Srinivasan\*, A. Shah, and G. Konidaris (Oct. 2020). “Graph Embedding Priors for Multi-task Deep Reinforcement Learning”. In: *NeurIPS 2020. KR2ML Workshop*.
- 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*.
- 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*.

## EDUCATION

### M.Sc. in Computer Science Brown University

📅 Aug 2018 – May 2022 (Concurrent)  
🎓 GPA: 4.0

Advised by: **Prof. George Konidaris**

### B.Sc. in Computer Science Brown University

📅 Aug 2018 – May 2022 (Concurrent)  
🎓 GPA: 3.9

Advised by: **Prof. Michael Littman**

### Courses

ML with Limited Labeled Data   Robotics  
NLP with ML   Graduate Graphics  
Reintegrating AI   Prescriptive Analytics  
ML Theory Seminar   Intro to RL (IS)  
Distributed Systems   Computer Vision  
Accelerated Intro CS   Systems   Networks  
Multivariable Calc.   Convex Optimization  
Probability & Stats   Microeconomics  
Blockchains   Algorithms   Linear Algebra

## PROJECTS

### IP/TCP

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

🐙 neevparikh/ip-tcp

### Volumetric Photon Mapping

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

🐙 neevparikh/rpt

### Hierarchical Doom

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

🐙 neevparikh/hierarchical-doom

## SKILLS

Pytorch   Python   Machine Learning  
Rust   C++   Slurm   AWS   Azure  
Numpy   Golang   C   Tensorflow  
Google Cloud   Docker   Git   Haskell