

# NEEV PARIKH

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🐙 github.com/neevparikh



## EXPERIENCE

### Software Engineer

Stripe

📅 Jul 2022 – Present

📍 San Francisco, CA

- Working on the Financial Data/Ledger team
- Building terabyte-scale Hadoop-based data pipelines in Scala Spark to ingest financial data in a double-entry bookkept Ledger.
- Building polished data-repair tooling for internal developer use
- Building high-performance internal canary-based monitoring services in Java.

### 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.

### 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%.
- Helped transition MLOps to Microsoft Azure.
- Implemented DeepLabv3+ from **ECCV 2018** to develop SOTA pipelines for semantic segmentation tasks.
- Achieved 90% in business-aligned metrics with reasonable inference time.

### 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.

## 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 on a Rust-based path tracer, based on Bitterli et. al., (presentation)

🐙 neevparikh/ip-tcp

### 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