

Akshay Patel

paksha.cs@gmail.com
github.com/paksha
linkedin.com/in/paksha

EDUCATION

University of Waterloo, Bachelor of Computer Science (Distinction) | GPA: 86%

2017 – 2021

EXPERIENCE

Meta (Facebook) | *Software Engineer*

March 2022 – Present

- Supporting messaging for Messenger & Instagram as part of Core Services team within Messaging Infrastructure

Waabi Innovation | *Software Engineer Intern*

Sep – Dec 2021

- Waabi is a **self-driving** company led by Raquel Urtasun, former Chief Scientist of Uber ATG
- Developing tools to train self-driving machine learning agents in a distributed manner; details withheld due to NDA

IMC Trading | *Software Engineer Intern*

Jun – Aug 2021

- Designed & implemented cloud deployment management tools from scratch using Golang, Docker, & Kubernetes
- Architected **distributed systems** to efficiently deploy & manage high-frequency trading software components

DeepMind | *Software Engineer Intern*

Feb – Jun 2021

- Built a **compiler toolchain** to compile JAX to WebAssembly via a modified TensorFlow XLA compiler & Emscripten
- Integrated **Launchpad**, an open-source distributed program launcher, with GCP to enable RL experiments on GPUs

Mila – AI Institute | *Research Assistant*

Jun 2020 – Jun 2021

- Built a **COVID-19 spread simulator** to evaluate deep learning based digital contact tracing methods
- Co-authored [COVI-AgentSim: ABM for Evaluating Digital Contact Tracing](#) with Yoshua Bengio

Amazon Web Services | *Software Engineer Intern*

May – Aug 2020

- Enabled cost-savings of up to **90%** by developing a capacity-aware, instance-flexible allocation strategy for internal use
- Optimized Flexible SIT **reliability** by analyzing capacity across availability zones before provisioning EC2 instances

Intuit | *Software Engineer Intern*

May – Aug 2019

- Saved **\$3 mil./year** by building an end-to-end NLP pipeline that detected **70,000+** brand impersonations
- Reduced client-side **TP99** latency by **81%** using batch processing instead of multi-threaded parallel processing

PROJECTS

Curiosity Driven Exploration

- Investigated effects of **curiosity-based & entropy-based exploration** in RL agents using **PyTorch & OpenAI Gym**
- Implemented baseline **Advantage Actor-Critic** algorithms and [intrinsic curiosity](#) formulations

Scala Compiler

- Compiled a subset of Scala into MIPS Assembly using a **CYK Parser** with **context-sensitive analysis**
- Implemented closures, nested functions, type checking, & automated garbage collection using Cheney's algorithm

SKILLS

Languages: Java, Python, Golang, C++, Scala, C, JavaScript, Ruby, SQL, \LaTeX

Technologies: AWS, Docker, PyTorch, JAX, TensorFlow, GCP, Kubernetes, Git, LLVM, Spring Framework