

# Gabriel Mukobi

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## Summary:

Researcher, engineer, and student passionate about empirical research and field building that reduces risks from advanced AI. Experienced in machine learning, research, software engineering, and game development in both small-team and large-company environments.

## Experience:

**Technical AI Safety Research Fellow, Existential Risk Alliance** - July 2023–Sept 2023 - Cambridge, UK - [erafellowship.org](http://erafellowship.org)

Leading self-directing and unreleased technical research aimed at reducing existential and suffering risks from advanced AI systems. Skills: Research, AI safety/alignment/governance, machine learning.

**Gameplay Engineering Intern, Respawn Entertainment** - June 2022–Sept 2022 - Remote - [ea.com](http://ea.com)

Engineered core gameplay and AI features as a Software Engineering Intern on the gameplay team of Respawn's unreleased Star Wars first-person shooter title. Skills: Unreal Engine 5, C++.

**Gameplay Engineering Intern, Riot Games** - June 2021–Sept 2021 - Remote - [riotgames.com](http://riotgames.com)

Designed and implemented core features as a Software Engineering Intern on the gameplay team of Project L, Riot Games' unreleased fighting game set in the League of Legends universe. Skills: Unreal Engine 4, C++.

**Research Programmer Intern and Tools Programmer Intern, Epic Games** - June 2020–Jan 2021 - Remote - [unrealengine.com](http://unrealengine.com)

Created deep reinforcement learning samples in Unreal Engine and a plugin to facilitate the use of ML in UE4. Engineered tools to predict LED wall moiré and other issues to improve Unreal virtual production shoots. Skills: RL, Unreal Engine 4, C++, Python.

**Google Engineering Practicum Intern, Google Cloud Platform** - June 2019–Sept 2019 - Seattle, WA - [github.com/knative-portability](https://github.com/knative-portability)

Developed several full-stack [open-source applications](#) as proof of portability for [Knative](#), an open-source platform for serverless containerized workloads. Skills: Python, Flask, MongoDB, CI/CD, testing, OAuth 2.0, Node.js, Express.js, TypeScript, PostgreSQL.

## Selected Projects:

**SuperHF - Supervised Program for Alignment Research (SPAR)** - Jan 2023–Jun 2023 - [Initial Paper](#)

In-progress research supervised by Silas Alberti (adv. Chris Re) to develop alternatives to reinforcement learning from human feedback (RLHF) which instead use supervised learning instead of RL, then evaluating and improving the safety of such methods.

**Rogue Starfighter VR - Personal Project** - Feb 2020–Mar 2020 - [gameplay video](#) - [github.com/mukobi/Rogue-Starfighter-VR](https://github.com/mukobi/Rogue-Starfighter-VR)

A virtual reality Star Wars X-wing flight simulator fan game behind the controls of a fully-interactive T-65B X-wing starfighter.

**Knative Portability - Google Cloud Platform** - June 2019–Sept 2019 - [github.com/knative-portability](https://github.com/knative-portability)

A collection of full-stack open-source web applications built as proof of portability for Knative, an open-source platform for serverless containerized workloads. Notable applications: [Kubercade](#) (social virtual arcade) and [Large Events](#) (event organizer).

## Skills:

**Artificial Intelligence** - [software.gabrielmukobi.com/ai](http://software.gabrielmukobi.com/ai)

AI safety, machine learning, deep learning, fine-tuning from human feedback, interpretability, NLP, prompt engineering, AI/ML research, reinforcement learning. Languages: Python, PyTorch.

**Software Engineering** - [software.gabrielmukobi.com](http://software.gabrielmukobi.com)

Agile development, product management, documentation, unit testing, bug reporting, code review, data structures, algorithms, CI/CD, debugging, IDEs, command line, Linux, Git, Perforce, [GitHub](#), [GitLab](#). Languages: C++, C#, C, Python, Java.

**Game Development** - [software.gabrielmukobi.com/games](http://software.gabrielmukobi.com/games)

Unreal Engine, Unity, gameplay programming, tools, virtual reality, 3D modelling, computer graphics. Languages: C++, C#, Python.

**Web Development** - [software.gabrielmukobi.com/web](http://software.gabrielmukobi.com/web)

Full-stack, web design, cloud computing, databases, Docker containerization. Languages: JavaScript, Node.js, Python, HTML.

## Education:

**Stanford University** - M.S. Computer Science - Sept 2023–June 2024, B.S. Computer Science - Sept 2018–June 2023 - GPA: 3.995

Coursework in AI, Computer Graphics, Computer Systems, Theory, and Algorithms. [Stanford AI Alignment](#) Founder and President, past leadership in [Stanford Effective Altruism](#), [Stanford XR](#), [Stanford AltPro](#), and [People for Animal Welfare](#).

## Interests:

[Photography](#), [digital 3D art](#), [filmmaking](#), [music](#), video and tabletop gaming, fantasy, and science-fiction.