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, software engineering, research, and game development in both small-team and large-company environments.

Experience:

Gameplay Engineering Intern, Respawn Entertainment - June 2022-Sept 2022 - Remote - 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

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

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

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

Rogue Starfighter VR is a virtual reality Star Wars X-wing flight simulator fan game. In it, the player experiences the full scale and power of space combat from a galaxy far, far, away 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

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

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

Game Development - software.gabrielmukobi.com/games

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

Web Development - software.gabrielmukobi.com/web

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

Software Engineering- 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.

Education:

Stanford University - B.S. Computer Science - Sept 2018-June 2023 (current final-year student) - Cumulative GPA: 3.995

Coursework in AI, Computer Graphics, Computer Systems, Theory, and Algorithms. Stanford AI Alignment Founder and President, Stanford Effective Altruism Co-President, past leadership in Stanford XR, Stanford AltPro, and People for Animal Welfare.

Interests:

Photography, digital 3D art, filmmaking, music, video and tabletop gaming, fantasy, and science-fiction.