Kevin Lizarazu-Ampuero

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Education

Virginia Tech

M.E. Computer Science — *Arlington, VA* — **01/2023 - 05/2025**
B.S. Computer Engineering, Organizational Leadership Minor — *Blacksburg, VA* — **07/2019 - 05/2023**

- **Relevant Coursework:** Machine Learning, Software Systems, Computer Systems, Data Structures & Algorithms, Large Scale Software Design, Statistics, Computer Architecture, Computer Vision, Artificial Intelligence, Computer Networking

Skills

- **Languages:** Python, C, C++, C#, Java, SQL, Bash, R, LaTeX, HTML, CSS, JS
- **Packages:** NumPy, SciPy, Matplotlib, Tkinter, Pandas, OpenCV, RegEx, TensorFlow, PyTorch, Celery
- **Development:** Qt, Docker, Git, Anaconda, REST API, Django, MongoDB, Unity, PostgreSQL, GCP, AWS

Experience

Software Engineering, Intern — **Rubrik** — *Palo Alto, CA* — **05/2024 - 08/2024**

- Implemented a consumer/subscriber model with Celery to efficiently queue tasks asynchronously.
- Integrated Google Calendar API to automate and manage CI/CD scheduling, improving visibility and coordination.
- Collaborated with managers and developers to gather feedback, resulting in enhanced productivity and satisfaction.
- Gained in-depth knowledge of CI/CD workflows and automation strategies within a Django-Python environment.

Tech Fellow, Web Development — **Codepath** — *Arlington, VA* — **01/2024 - 05/2024**

- Mentored 20 students, offering technical guidance and career advice on collaboration, initiative, and velocity.
- Developed and deployed a full-stack movie recommendation site using React, Django, and PostgreSQL.

AI and Security Perception Intern — **MITRE** — *McLean, VA* — **08/2021 - 05/2023**

- Led research on multi-agent reinforcement learning (MARL) systems, achieving a 20% reduction in training times through CUDA optimization and enhancing model explainability with Tensorboard visualization.
- Developed and refined AI red teaming methodologies, identifying and mitigating vulnerabilities in machine learning models, with an 18% improvement in detection performance using the MMDetection framework.
- Engineered synthetic datasets via Unreal Engine and JSON manipulation, expanding test data by 80% and applying adversarial robustness techniques to decrease detection rates by 31% in synthetic environments.

RockSat-X, Sensors Lead — **Virginia Tech** — *Blacksburg, VA* — **10/2020 - 08/2022**

- Developed C-based event loops and algorithms for sensor data management in space.
- Implemented complex star triangulation algorithms using an STM32 and Raspberry Pi to guide orientation.

Projects

AI Flappy Bird — **01/2024 - 05/2024**

- Trained a Flappy Bird agent using RL algorithms including Q-Learning, SARSA, and DQN achieving 10,000+ score

Augmented Reality Transit — **08/2022 - 05/2023**

- Unity-based AR app that visualizes 3D paths from Google Maps API and uses YOLOv5 for hazard detection on HoloLens

DermaCheckAI — **08/2022 - 01/2023**

- Trained a YOLOv5 model on 12k images of benign [92% accurate] and malignant [98% accurate] samples to give diagnosis

Organizations

A. James Clark Scholars Program — *Exclusive Cohort Member* — **06/2019 - 05/2023**

Additionally: Google LSLS, VSGC, ColorStack, Dean's List, VT Global Education Office, Codepath, Research, VT SHPE