KIRAN BRAHMATEWARI

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kiran-brahmatewari lynkos lynkos.dev

Education

Bachelor of Science in Computer Science August 2025

Florida International University (FIU) *Miami, FL*

- **Relevant Coursework**: Artificial Intelligence, Operating Systems, Net-Centric Computing, Data Structures, Discrete Mathematics, Systems Programming, Computer Architecture, Software Engineering, Algorithm Techniques, Principles of Programming Languages, Mobile Application Development, Fundamentals of Quantum Computing

Experience

Software Engineer Intern May 2021 – August 2024

Oracle Cloud Infrastructure (OCI) *Remote, Hybrid*

- Automated (1) Top of Rack switch replacement workflow, (2) change management ticket creation, and (3) release creation/deployment; resulted in 80% decrease in time spent triaging tickets
- Enhanced network monitoring capabilities by developing a command line tool to automatically convert all Terraform alarm configurations within a given directory and subdirectories into a Grafana dashboard; conveniently auto-uploaded once user enters new dashboard's name, parent folder (optional), and commit message (optional)
- Authored comprehensive technical documentation, unit tests, and test scenarios/cases; method coverage $\approx 90\%$
- Engineered a database solution for fault code data management, including a Data Access Object (DAO) layer, to support a data pipeline for the data warehouse, contributing to operational analytics
- Onboarded throttling service to limits service
- Interned at OCI for 4 summers with various teams (e.g. Compute, Networking, Storage, DevOps, etc.)

Research Assistant September 2023 – April 2024

Analytics for Cyber Defense Lab *Miami, FL*

- Designed and developed client-server software for large matrix multiplication with Internet of Things (IoT) devices
- Implemented multiparty computation (MPC), a quantum-resistant cryptographic algorithm, to ensure reliable and secure data exchange
- Improved multiplication speed for sufficiently large matrices; i.e. runtime is significantly faster — in comparison to NumPy's `dot`, `matmult`, and `einsum` routines — when computing the product of sufficiently large matrices
- Read research literature about the theory and applications of post-quantum cryptography as a preventatve measure against quantum hacking

Projects

Personal Blog April 2025 – Present

blog.lynkos.dev *Miami, FL*

- Developing, customizing, and maintaining a blog that's auto-generated with Markdown and Jekyll
- Writing about quantum search algorithm; self-compiled, optimized large language models (LLMs) for Apple Silicon (e.g. MacBook Pro M1, M2, etc.); playing Windows games on Mac using custom Bash scripts, Wine, and various graphics APIs; the singularity; cybersecurity; and much more

Using AI and Low-Cost Camera to Detect Harmful Algae in Natural Water January – May 2024

Capstone II *Miami, FL*

- Designed and developed a system that uses a custom computer vision model and a camera (i.e. most ESP32-CAMs, iPhones, and webcams) to quickly detect and identify species of harmful algae in real-time via livestream and video; i.e. using convolutional neural networks for object detection
- Wrote comprehensive Google Colab tutorial that details the process of training, validating, inferencing, exporting, and deploying the custom AI model; tutorial also goes over dataset annotation, preprocessing, and augmentation
- Lead and managed team of 3 senior computer science students (i.e. team lead)

Skills

Languages: Python, Bash, YAML, JSON, HTML, CSS, JavaScript, Markdown, Java, Ruby, Terraform, Jinja, C, C++

Frameworks: PyTorch, OpenCV, Keras, TensorFlow, NumPy, SymPy, MySQL, Espressif, Arduino, SASS, Jekyll

Tools: Jira, Git, Conda, Jupyter, Colab, Roboflow, Grafana, Docker, GitHub Actions, VMWare Fusion, Vim, Wine

Operating Systems: macOS, Ubuntu, Windows