KIRAN BRAHMATEWARI

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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 preventative 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