

# HRISHIKESH KALYANARAMAN

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## Education

University of Illinois at Urbana-Champaign

Graduation: May 2025

Bachelor of Science in Computer Science

GPA: 3.77/4.00

Intelligence and Big Data Track, Minor in Computational Physics

## Relevant Coursework

Algorithms(CS 374, CS 466), Systems Programming (CS 341), ML (CS 440, CS 446), Data Structures (CS 225), Probability and Statistics (CS 361), Linear Algebra (MATH 257), Differential Equations (MATH 285)

## Skills

**Programming Languages:** Python, C++, C, Java, SQL, JavaScript, Shell, YAML, React, Typescript, Tailwind CSS, NodeJS

**Version Control:** GitHub, GitLab, Bitbucket

**Frameworks/Platforms:** Linux, Docker, MS Office, MongoDB, GCP, Azure, REST API's, Langchain, Flask, Next.js, SQLite, PostgreSQL, AWS, FastAPI, MYSQL, Pytorch

**Languages:** Professional fluency in Tamil, Hindi

**Olympiads:** International Physics Olympiad, Asian Physics Olympiad (UAE team)

## Work Experience

SWE Intern, Eli Lilly and Company | RAG, AWS, PostgreSQL, Streamlit, FastAPI

May 2024 - August 2024

- Developed Retrieval Augmented based AI chatbot to create impact analysis on new release notes, reducing annual team workload by 80%
- Implemented multi-step authentication for chatbot to ensure compliance and securing confidential medical data
- Optimized streamlit frontend implementing accessibility features and prompt selection drop-downs based on user testing
- Deployed chatbot to production on internal kubernetes cluster ensuring scaling requirements, and created developer documentation
- Educated stakeholders on AI limitations ensuring a 20% improvement on recall metrics

Strategy Lead, Illini Solar Car | Leadership, Algorithms, Library Development, Flask

January 2022 - March 2024

- Led 50-member cross-functional team in algorithm optimization, data analysis, and telemetry, utilizing AGILE to drive project success
- Developed and debugged python physics engine library using pdb, enabling integration of 3 new algorithms
- Implemented unit testing workflows to raise code standards, increasing pylint scores by 800%
- Refactored telemetry backend from JavaScript to Flask, reducing onboarding time by 25%

Software Intern, Optivolt Labs | Linux, OpenCV, Tkinter, Multi-processing, gspread

June 2023 - August 2023

- Designed UI in python to automate internal test logging via Google Sheets integration using Tkinter, gspread.
- Decreased testing costs by \$25,000 through automation of test lighting procedures using PySerial, DMX Controller
- Doubled testing efficiency through automated temperature measurements using IR camera, Pyudev, OpenCV
- Enhanced internal testing library by adding support for external tools (lighting setup, IR Cameras, electronic loads)

DevOps Intern, National Centre for Supercomputing Applications | Github Actions

June 2022 - Present

- Migrated Continuous Integration workflows for the Einstein Toolkit from Bitbucket to GitHub Actions
- Documented and adapted Einstein Toolkit testing framework for SelfForce-1D code infrastructure
- Working on a co-authored paper on transferability of testing frameworks

## Projects

### Sitafal

Personal Project | <https://youtu.be/lsmTw80J3U4?feature=shared>

- \* Deployed full-stack web application using Next, React, NodeJS, Typescript to speed up conceptual design by 10x
- \* Implemented custom image AI workflows on ComfyUI using fine-tuned machine learning models
- \* Reduced 3D model generation costs by 60% through custom 3D model workflows
- \* Onboarded 6 pilot users from industrial design firms, and received \$2000 in grants

### ChatCAD

Personal Project | [https://youtu.be/OylBBZy\\_yo8?feature=shared](https://youtu.be/OylBBZy_yo8?feature=shared)

- \* Developed OpenSCAD and Fusion 360 add-ins using Langchain and GPT4 for text-to-CAD conversion
- \* Implemented Retrieval Augmented Generation using a sentence transformer model, Chroma Vector database
- \* Increased accuracy 10x using few-shot prompting and Fusion 360 API embeddings scraped using selenium