

Vinayak Bhagavath

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EDUCATION

University of Wisconsin - Madison

Madison, WI

Bachelor of Science in Computer Science and Data Science – GPA: 3.96

Expected Graduation: Dec 2027

Courses: Object Oriented Programming, Data Structures, Algorithms, Linear Algebra, AI, Machine Learning for Engineering Research, Statistics & Probability, Data Science Modeling/Programming, Computer Engineering/Machine Organization, Discrete Math

Organizations: Project Dev @ Data Science for Sustainable Development, Software Engineer @ WiscoHumanoids, Informatics Skunkworks

EXPERIENCE

Software Engineer Intern

Remote/Los Altos, CA

Anduril Partners

May 2026 - Present

- Researching agentic AI adoption frameworks for SMBs and microcaps across ontology, data, and privacy layers in fast-paced and lean startup environment
- Building Outlook+HubSpot agent in Copilot Studio with RAG and LLM function calling to auto-log CRM features
- Developing stock intelligence agent synthesizing financials and news sentiment via LangChain and live API tool-use

Undergraduate Research Assistant

Madison, WI

University of Wisconsin - Madison (Prediction and Action Lab - Prof. Josiah Hanna)

Feb 2026 - Present

- Training robot behavior policies for RoboCup with RL in Python using MuJoCo, Jax, and Weights & Biases
- Built first person robot camera view in OpenGL for debugging ROS2 Humble, C++, and MuJoCo simulation
- Fixed bounding box calculations in robot perception to accurately track ball location and fix game behavior
- Improved policy robustness by 23% via domain randomization over 1M+ timesteps on NVIDIA RTX 5090

Software Engineer Intern

Santa Clara, CA

Keysight

June 2023 – August 2023

- Decreased runtime of executable by 90+% through implementing multithreading in Python and PySimpleGUI
- Fixed crashing of MATLAB GUI production tool to process optical imagery and information for customer
- Ensured proper display of non-English languages and characters in output by resolving GUI encoding issue
- Debugged testing suite and benchmarks for laser interferometry in C# to maintain functionality
- Utilized Python and Make to implement a parser that generates a Verilog Header File from a .v or .sv file
- Cataloged and documented over 100 different internal lab software and electrical hardware items with Excel

PROJECTS AND EXTRACURRICULARS

GRPO vs DPO for LLM Structured Reasoning | *Python, PyTorch, HuggingFace*

Dec 2025

- Fine-tuned Qwen 2.5-.5B LLM for step-by-step reasoning by 30+% over baseline on GSM8K dataset, using GRPO and DPO optimization methods with PyTorch and HuggingFace
- Evaluated GRPO vs. DPO with a custom reasoning reward function and curated preference pairs for training
- Found DPO had stronger structured reasoning with 2× faster training and off-policy approach
- Built reproducible LLM fine-tuning experiment using HuggingFace datasets, models, tokenizers, and Trainer APIs

AgentCheck - Agent Forge AI Hackathon | *Python, FastAPI, React, GPT-4o*

May 2026

- Built fully autonomous 6-agent hiring pipeline and placed top 20 of 330+ participants
- Resolved live ATS boards (Greenhouse, Lever) dynamically at runtime via slug-variant resolution
- Designed Resume/Discovery/Verification/Signal/Outreach/Application agents with independent error handling
- Enabled personalized outreach at scale with GPT-4o-mini via TokenRouter to infer candidate profile, match companies, and draft recruiter messages from resume upload

Bank Loan Classifier | *Python, Scikit-learn, Flask, React, Plotly*

Mar 2025

- Trained machine learning classifier to predict defaulted loans using Python and Scikit-learn
- Cleaned and preprocessed 1100+ data entries with Pandas to utilize Support Vector Machine model
- Performed Principal Component Analysis for dimensionality reduction for 3D visualization of SVM hyperplane
- Implemented and connected model visuals with Flask, React, and Plotly through REST API

Elevator Simulation | *Java, JavaFX, OOP, Git*

Dec 2024

- Engineered elevator simulation in Java handling 80+ passenger scenarios via Finite State Machine and OOP design

TECHNICAL SKILLS

Languages: Python, Java, R, HTML, CSS, JavaScript, TypeScript, C, Go

AI/ML: PyTorch, HuggingFace, Scikit-learn, MuJoCo, OpenCV

Frameworks: Flask, React, REST APIs, Docker, GCP, Selenium, Node.js, LangChain

Tools: Git, SQL, MATLAB, Bash, Excel, Claude Code, Cursor, Copilot