

Nihal Gunukula

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OBJECTIVE

Actively seeking internships in Software Development and Machine Learning.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, C#, JavaScript, HTML/CSS, R

Frameworks: React, Node.js, JUnit, SpringBoot, Unity Engine

DataBases: MongoDB, SQL, NoSQL

Cloud Hosting: Amazon Web Services

Machine Learning: Navigation, Object Detection, Natural Language Understanding, Large Language Models

EDUCATION

Purdue University

West Lafayette, IN

Bachelor of Science in Computer Science, Minor in Math, Certificate in Entrepreneurship

Aug. 2023 – May 2026

- GPA: 4.0 — Dean's List & Semester Honors
- Data Structures, Object Oriented Programming, Entrepreneurship, Calculus, Discrete, Statistics

WORK EXPERIENCE

Co-Founder & CEO

January 2024 – Present

OpenSpaces

West Lafayette, IN

- Launching a storage solutions company that connects people in need of storage with people with excess storage.
- Worked with my co-founder to bootstrap the application using ReactJS and NodeJS and is now hosted with Amazon Web Services
- Pitched the idea to a Midwestern Conference BoilerLaunch, and received a \$5,000 award.

Software Developer

August 2023 – Present

Indiana Soybean Alliance (Corporate Partnerships Data Mine)

West Lafayette, IN

- Led a team of 5, creating a Python streamlit-based platform with over 100 Indiana farmers' programs.
- Headed a Data Analysis team using Python Pandas & R to extract and analyze farming programs, to increase agricultural decision-making for farmers.
- Discussing potential website integration strategies to the Indiana Soy Bean Alliance.
- Utilizing Large Language Models to web crawl to update the website with real-time information of new programs.

Machine Learning Tester

July 2022 – August 2022

Datanomers

San Jose, CA

- Directed a team of 3 to fine-tune data for a machine learning model using TensorFlow, boosting accuracy by 5%.
- Engaged with management to tackle and reduce overfitting issues, further enhancing model accuracy by 15%.

RESEARCH EXPERIENCE

Inverse Reinforcement Learning Replication Study

November – December 2023

ML@Purdue, Dags Hub Advanced Track 2nd Place Winners

West Lafayette, IN

- Replicated a Maximum Entropy Deep Inverse Reinforcement Learning model for Human Social Navigation, demonstrating accuracy within 2 meters of the original in TensorFlow with < 25% of the computational power.
- Co-lead author of a paper conducting ablation studies which is in progress for Re: Science publication:

Project Lead

October 2023 – Present

Purdue Fusion Studio for Entertainment and Engineering

West Lafayette, IN

- Spearheaded two pioneering projects integrating Machine Learning with Systems Engineering in Theatre, leading teams of 4 under the guidance of Professor Rich Dionne.
- Developed an innovative Markov Decision-Making Process-based platform for intelligent stage navigation, enhancing stage direction efficiency.
- Implemented LIDAR positioning to visualize the stage director's vision for robotic movements dynamically.

Undergraduate Researcher

September 2023 – Present

Purdue (IDEAS) Intelligent Design for Empathetic & Augmented Systems Lab

West Lafayette, IN

- Collaborated with Professors Aniket Bera and Kshitij Tiwari on a cutting-edge deep maximum entropy inverse reinforcement model, achieving a significant breakthrough with a loss of 2.33 in 400 space.
- Designed a Unity Engine virtual environment using C# and Steam VR for collecting human navigational data, contributing to groundbreaking research in the field.
- Lead author for research with potential for publication at the International Conference on Robotics and Automation:
- Building the MoonShot Pitch Competition Finalist project, an innovative indoor navigation system for disabled ChairCare individuals

PROJECTS

ChairCare

Received: November 2023

<https://www.youtube.com/watch?v=XVVtSWsN-iU>

- Presented ChairCARE, an innovative indoor navigation system for disabled individuals, and was a MoonShot Pitch Competition Finalist
- Utilized advanced data transformation techniques for blueprint analysis and developed a prototype for assisted driving using live sensory inputs.

Distracted Driver Detection

August 2023 – August 2023

<https://github.com/nihalgunu/DistractedDriverDirector-24-hour-Hackathon-Project>

- Engineered a sophisticated double 128-neuron convolutional neural network in TensorFlow to identify distracted drivers with a 99.7% accuracy rate.
- Led a dynamic team in the creation of an Android application using Java, enabling real-time distracted driver detection.
- Efficiently managed the project timeline to ensure completion and deployment within the challenging 24-hour hackathon period.

Home Tracker Framework

July 2023 – August 2023

<https://github.com/nihalgunu/homeTracker>

- Developed a robust web platform on AWS utilizing Node.js, HTML, CSS with React, and Java with SpringBoot for comprehensive home data management.
- Facilitated homeowners with data storage and retrieval through a MongoDB database, enhancing user accessibility and experience.

LEADERSHIP & ORGANIZATIONS

Project Manager

January 2024 – Present

ML@Purdue

West Lafayette, IN

- Leading a team of 8 to develop a leaderboard for ML Hackathons that uses ML Flow to keep the database utilized closed source.
- The website is built with Python, JavaScript, Sass, HTML, Shell and Dockerfile.

Director of University Outreach

October 2023 – Present

Anvil

West Lafayette, IN

- Orchestrated BoilerLaunch, the premier university entrepreneurship event in the Midwest, attracting participation from 19 clubs across 8 universities.
- Secured engagement from major corporations like Apple, IBM, and Microsoft, elevating the event's stature.
- Managed sponsorship negotiations and logistics, including travel, accommodation, and venue arrangements for over 130 attendees.

Vice President

August 2023 – Present

Hillenbrand Hall Phoenix Club

West Lafayette, IN

- Steered a committee of 50 senators to effectively represent the interests of Hillenbrand Hall's residents, fostering a vibrant community environment.
- Spearheaded diverse cultural and social events, promoting inclusivity and engagement among the hall residents.

Head of Student Outreach

August 2023 – Present

Google Student Developer Club

West Lafayette, IN

- Led initiatives for skill development in technologies like Flutter, enhancing peers' proficiency with Google's tech ecosystem.
- Hosting and publicizing weekly meetups to help groups, along with my own, compete in the Google Student Developers United Nations Competition are on track for a successful submission.