

# MANNAN SHUKLA

Robbinsville, NJ

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## TECHNICAL SKILLS

**Languages/Frameworks:** Java, Python, C, FastAPI, MongoDB, SQL, pytorch, ollama, llama.cpp, ROS, whisper, llama3, Langchain, ChromaDB, REST API, edge-tts, RVC, JavaScript, React, unsloth, pypdf, Google Sheets API, Stripe API, Bootstrap, CSS Grid, CSS Flexbox

**Developer Tools:** Git, Docker, Linux, AWS, Firebase, vim, Agile, Huggingface

## EXPERIENCE

### Research Assistant

agiresearch - Rutgers University

April 2024 - Present

New Brunswick, NJ

- Designed **CLI interface** for agent interaction and implemented agent recommender system
- Investigated and integrated **Large Language Model (LLM) agents** into workflows for automated task execution
- Explored opportunities for automatic agentic workflows to enhance efficiency in human application interactions
- Optimized smaller scale LLM agents for embedded mobile applications, focusing on smaller, lower-parameter models

### Software Engineer

Valari Robotics LLC

June 2024 - Present

Ponte Vedra Beach, FL

- Created host functionality for restaurant robot using **RVC, whisper, and llama3** to interact with users with private compute
- Finetuned llama3 on restaurant host training manuals and menu using **unsloth** to ensure expertise and context awareness
- Developed REST API for CRUD operations with **SQLAlchemy, SQLite, and FastAPI** for quick data retrieval and queue management
- Used ROS (Robot Operating System) movement API to control robot placement when leading customers to tables

### IT Intern

American Louvered Roof | <https://americanlouveredroof.com>

July 2023 - December 2023

Trenton, NJ

- Established digital presence by developing website deployed on **Google Firebase**
- Managed all company servers, domains, email addresses, VoIP, and digital accounting overseeing thousands of dollars
- Fostered relationship with 3 major clients resulting in **current sales over \$30,000**

### Student Design Researcher

Innovation, Design, and Enterprenuership Academy at Rutgers

June 2023

New Brunswick, NJ

- Developed **Full Stack Volunteer Management System** for non-profits with team of 5 design researchers in a 5 week program at Rutgers
- Designed intuitive **React** frontend powered by **REST APIs** served with **FastAPI** backend
- Implemented **pypdf** to streamline and automate form writing and recordkeeping, synced via **Google Sheets API**

## LEADERSHIP

### President

Rutgers University Student Linux User's Group (RUSLUG) | <https://ruslug.org>

September 2023 - Present

New Brunswick, NJ

- Relaunched club following 12 year gap, developed constitution, recruited **20 members**, and launched website
- Project Manager and Developer for the Bus Signboard project, developing an open source e-ink device to show bus ETAs at stops
- Gave a talk to 100+ people introducing Free Software to Rutgers CS Community

### Founder

Jersey Film Company | <https://jerseyfilmco.org>

January 2024 - Present

Robbinsville, NJ

- Founded brand with 4 investors to sell Kodak color positive film at NJ film labs and direct-to-consumer online
- Used **Figma** to design a **direct to consumer online storefront** and other digital marketing assets
- Developed online storefront using **CSS Grid and Flexbox** with **FastAPI** backend and **Stripe** integration

## PROJECTS

**internetfriend** | [Discord.py](https://discord.py), [ollama](https://ollama.com), [llama3](https://llama.com)

2024

- Developing a **context aware** uncensored Discord chatbot with **llama3** and **ollama-serve** running locally
- **Finetuned** uncensored model using unsloth on scraped Discord conversations for added realism and awareness
- Used PubMed API to pull relevant research papers based on keywords that appear in conversation and post at random intervals

**openview** | [FastAPI](https://fastapi.com), [Jinja2](https://jinja2.com), [ChromaDB](https://chromadb.com), [CSS Grid](https://cssgrid.com)

2024

- Developed full-stack web app for viewing personal photography portfolio using **FastAPI** serving **REST API** with **CSS Grid** frontend
- Added support for tagging, albums, downloading via an optional CLI friendly interface, and displaying EXIF data
- Employed ChromaDB and Huggingface embedding model to add **semantic search** for images

## EDUCATION

**Rutgers University - New Brunswick**

GPA - 3.5

Bachelor of Science - Computer Science

2022 - Fall 2025

- Coursework: Systems Programming, Algorithms, Intro to AI, Intro to Data Science, Intro to Computational Robotics