

# Md. kamrul Hassan

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in Kamrul Hassan



## ABOUT ME

- Passionate **Software Engineer and Web Developer** with a strong focus on **backend development and API design**.
- Dedicated to building scalable and efficient systems while continuously learning new technologies.
- Aspiring **Full-Stack Developer** eager to master both the backend and frontend for seamless digital experiences.
- Thrive in fast-paced environments, tackling challenges with a problem-solving mindset and commitment to growth.

## EDUCATION

2021 – 2024 (11 trimesters)    **Bachelor of Science in Computer Science and Engineering**  
**United International University**  
📍 Dhaka, Bangladesh  
CGPA: 3.55 out of 4

## SKILLS

Programming Language	C/C++, Python, Java, JavaScript ...
Databases	MySQL.
Front-end	HTML5, CSS.
Back-end	Django, Flask, Java, PHP.
Design	Figma.
Version Control	Git, Github.
Machine Learning Libraries	NumPy, Matplotlib Gemini AI ...
API Development, Testing	REST APIs, Postman.
Communication, Realtime Systems	WebSockets, Java Sockets.

## CURRENTLY EXPLORING

- Docker & Containerization** – Enhancing deployment efficiency and scalability.
- Automation Tools (n8n, Make.com)** – Implementing workflow automation for improved system productivity.
- Voice AI (Vapi.ai)** – Researching AI-powered voice agents for real-time interactions.
- LLM Security & Jailbreak Research** – Analyzing vulnerabilities and ethical considerations in large language models.

# PROJECTS

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## Laangol (Initial)

- Developed a modular agriculture marketplace using **Django (Backend)**, **MySQL (Database)**, and **Vite + React.js (Frontend)**.
- Implemented an **Authentication module** with user sign-up, login, profile update, and data management.
- Built a **Marketplace module** where farmers can **sell crops, accessories, and fertilizers**, manage inventory, and buyers can browse, add to cart, and checkout.
- Designed a **Labor Management system** allowing farmers to **register as laborers**, find/hire workers, and manage upcoming jobs.
- Created a **Storehouse rental system** enabling users to **list, rent, and book storage spaces** based on square footage and daily rates.
- Integrated a **real-time communication module** using **Node.js and WebSockets** for buyer-seller messaging and user connections.
- Developed **AgroAegis**, an AI-powered chatbot using **Gemini 1.5 Flash**, providing agricultural insights with a 7-day conversation history.
- Ensured a scalable architecture with a **shared database model**, while maintaining modular independence.
- Conducted extensive **API testing with Postman** to validate integrations and improve system reliability.

## Gardening Website (Freelance Project)

- Developed and deployed a **self-initiated gardening e-commerce project** using Django (Backend) and React.js (Frontend).
- Integrated **REST APIs** with the React.js frontend for seamless data exchange.
- Implemented **product search functionality** with name similarity matching.
- Built **advanced filtering** options for better product discovery.
- Developed **cart, checkout, and order history** features for a smooth shopping experience.
- Designed and implemented **order processing workflows**.
- Integrated **subscription-based email notifications** for customer engagement.

## FutureFarm-Hub

- Developed a web-based platform enabling farmers to receive advice, sell crops, and hire laborers.
- Utilized MySQL, HTML, CSS, Bootstrap, JavaScript, Python Flask, and Node.js for real-time chat server to develop robust and scalable back-end and front-end.
- Implemented a pre-trained Pytorch-based chatbot to assist farmers with field preparation, improving response time by 30
- Leveraged Pytorch to develop a pre-trained chatbot, enhancing user interaction.
- Created an online marketplace connecting farmers with retailers.

- Deployed a Node.js server to facilitate real-time communication among users.

#### UIU-Connect

- It is a Javafx project. UIU-Connect is like a social platform where Users can communicate with other Users. Also, there are some basic games to entertain users. Another feature is users can also use this as a browser. And last one there is a Broadcast option for users to send a message to all other users.
- Use Java Socket for communication.

#### Ababil(Hardware-project)

- Developed a specialized drone named "Ababil" to operate in hazardous or inaccessible environments, enhancing safety and data collection capabilities.
- Engineered the drone to navigate areas dangerous for humans, like active fire zones or toxic gas environments, ensuring crucial data collection in real-time.
- Equipped Ababil with advanced sensors to detect human presence and gather real-time data, aiding decision-making in emergencies and high-risk situations.