

# Aayush Koirala

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linkedin.com/aayush-koirala | Aayush's Portfolio

## Education

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**University of Massachusetts Amherst**

**Graduating: Spring 2026**

**Bachelor of Science in Computer Science** — Amherst, MA

- Relevant Coursework: Data Structures, Algorithms, Machine Learning, Artificial Intelligence, Databases, Computer Networks, Operating Systems, Web Development.

## Experience

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**Software Engineer Fellow**

**Summer 2024**

**Headstarter AI** — Remote

- Participated in a 7-week software engineering fellowship focusing on building 5 AI projects, 5 weekend hackathons, and a final project aimed at raising \$1000+ with 1000+ users.
- Engaged in interview prep, resume reviews, and received feedback from real software engineers.

**Undergraduate Research Assistant**

**Summer 2024**

**University of Massachusetts Amherst, (CICS)** — Amherst, MA

- Conducted research on Machine Learning (ML) security under the guidance of a PhD leader.
- Utilized Jupyter Notebook to analyze and implement neural network architectures like LeNet, AlexNet, VGG, ResNet, DenseNet, and MobileNet.
- Explored the theoretical trade-offs between robustness and accuracy in ML models.

**Fellow**

**Summer 2022**

**SoarCS** — Lowell, MA

- Participated in a pre-semester program, enhancing coding skills and networking with fellow students.
- Attended Red Hat's DevConf.US conference.

**Instructor**

**Jan 2021 – Sep 2022**

**Elevate the Future Massachusetts** — Acton, MA

- Taught computer science and business principles to over 300 middle and high school students with a team.
- Led a 6-week introductory Python programming course and introduced data structures concepts.

## Projects

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**Chef Krrish**

**Summer 2024**

**Technologies: React, Next.js, Firebase, OpenRouter API, LLaMA 3.1**

- Developed a web app integrating Firebase Authentication, Firestore for user management, and OpenRouter API with LLaMA 3.1 model to provide personalized dietary advice.
- Implemented a dark mode toggle for enhanced user experience.

**Inventory Management Web App**

**Summer 2024**

**Technologies: React, Next.js, Firebase, Framer Motion, TensorFlow.js**

- Developed a web application for managing inventory with real-time data management, user authentication, and CRUD operations.
- Features include CSV import for bulk adding inventory items, and image classification using MobileNet.

## Personal Portfolio

Summer 2024

**Technologies:** React, Vite, Tailwind CSS, Framer Motion

- Created an interactive web application showcasing skills, experiences, and projects with responsive design optimized for both desktop and mobile.

## Ohara Library

Spring 2023

**Technologies:** Django, PostgreSQL, Bootstrap

- Developed a database of popular manga with a user-friendly interface, featuring extensive search functionality and a database of over 2000 titles.

## Skills

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- **Programming Languages:** Python, JavaScript, TypeScript, Java, C++.
- **Frameworks & Libraries:** React, Next.js, Node.js, Express, Django, Tailwind CSS, TensorFlow.js, Framer Motion.
- **Databases:** MySQL, PostgreSQL, MongoDB, Firebase Firestore.
- **Tools:** Git & GitHub, Jupyter Notebook, Vercel, AWS.