

# AAROHAN NIRAULA

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Tech enthusiast passionate about AI/ML, full-stack development, and building impactful solutions. Seeking software engineering internship opportunities to apply programming skills and contribute to innovative projects.

## PROJECTS

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- Sabda - Interactive Word Guessing Game** | *Python, Flask, SQLite, HTML/CSS* | [Demo](#) [GitHub](#) 2023
- Developed full-stack web application with interactive word-guessing gameplay using Flask backend
  - Integrated SQLite database for user session management and game state persistence
  - Implemented responsive front-end with vanilla HTML/CSS for engaging user experience
  - CS50X final project demonstrating end-to-end web development skills
- EK-thal - Food Waste Reduction Platform** | *Django, Python, 48-hour Hackathon* | [Demo](#) [GitHub](#) 2024
- Built social impact platform connecting food donors with recipients to reduce waste using Django framework
  - Developed during 48-hour hackathon, demonstrating rapid prototyping and problem-solving skills
  - Focused on addressing real-world sustainability challenges through technology solutions
- Titanic Survival Prediction** | *Python, Machine Learning, Data Science* | [Demo](#) [GitHub](#) 2024
- Implemented machine learning model to predict passenger survival using Titanic dataset
  - Performed data preprocessing, feature engineering, and model evaluation
  - Utilized pandas, scikit-learn, and matplotlib for data analysis and visualization
  - Achieved competitive accuracy through algorithm optimization and feature selection
- Lost & Found System** | *University Real-World Solution* | [GitHub](#) 2024
- Developed comprehensive system for university lost and found management
  - Created user-friendly interface for reporting and searching lost items
  - Demonstrates ability to solve practical, real-world problems through software engineering
- RhymLizer - Audio Visualizer** | *Python, Pygame, Matplotlib* | [Demo](#) [GitHub](#) 2024
- Created dynamic audio visualizer with multiple preset modes and real-time rendering
  - Implemented audio signal processing algorithms for graphical representation
  - CS50P capstone project showcasing advanced Python programming concepts
- Invisible - AWS Infrastructure Project** | *AWS, Terraform, Cloud Architecture* | [GitHub](#) 2025
- Built and deployed cloud infrastructure using AWS services and Terraform IaC
  - Demonstrated practical application of AWS Solutions Architect knowledge
  - Implemented scalable, secure architecture following cloud best practices

## TECHNICAL SKILLS

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**Programming Languages:** Python, JavaScript, HTML/CSS, SQL  
**Frameworks & Libraries:** Flask, Pygame, Matplotlib, pandas, scikit-learn  
**Cloud & Infrastructure:** AWS (EC2, Lambda, S3, VPC), Terraform  
**Databases:** SQLite, Database Design  
**Development Tools:** Git, GitHub, RESTful APIs  
**Areas of Interest:** Machine Learning, Data Science, Full-Stack Development, Cloud Computing

## CERTIFICATIONS

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### CS50AI - Introduction to Artificial Intelligence

2025

*Harvard University*

Certificate

- Mastered core AI concepts including search algorithms, knowledge representation, uncertainty, optimization, and machine learning
- Implemented neural networks, natural language processing models, and computer vision systems from scratch in Python
- Developed sophisticated AI applications including game-playing agents, recommendation systems, and image classifiers

### AWS Solutions Architect Associate

2025

*Amazon Web Services*

Certificate

- Industry-standard certification validating expertise in designing distributed systems on AWS cloud platform
- Demonstrated proficiency in architecting scalable, fault-tolerant, and cost-effective cloud solutions
- Mastered advanced AWS services including VPC networking, security best practices, and disaster recovery strategies

### CS50X - Introduction to Computer Science

2023

*Harvard University*

Certificate

- Harvard's flagship computer science course covering algorithms, data structures, memory management, and software engineering
- Programmed in C, Python, SQL, JavaScript, HTML/CSS across challenging problem sets and culminating final project
- Developed strong foundations in computational thinking, debugging, and code optimization techniques

### CS50P - Introduction to Programming with Python

2024

*Harvard University*

Certificate

- Advanced Python programming covering object-oriented design, testing, libraries, APIs, and software development best practices
- Mastered regular expressions, file I/O, exception handling, and popular Python frameworks including Flask and Django concepts
- Built comprehensive final project demonstrating advanced Python proficiency and software engineering principles

## EDUCATION

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### Bachelor of Computer Science

May 2024 – Present

*WestCliff University (King's College), Kathmandu*

## TRAINING & EXPERIENCE

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### Cloud Apprentice

Apr 2025 – June 2025

*Adex International*

- Completed comprehensive AWS cloud computing apprenticeship with hands-on laboratory experience
- Gained practical experience with EC2, Lambda, S3, VPC, and other core AWS services
- Participated in guided projects and real-world scenarios preparing for AWS Solutions Architect certification
- Developed foundational skills in cloud architecture, security, and cost optimization

### Consumer Tech Reviewer & Writer

Apr 2023 – Apr 2025

*Gadgetbyte, Kathmandu*

- Published 250+ in-depth reviews of consumer technology products including smartphones and laptops
- Drafted scripts for YouTube content with combined reach of 10+ million views
- Developed technical writing skills and gained experience in professional work environment