

# NIRANJAN ALASE

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## Education

Indian Institute Of Information Technology, Kottayam

*B.Tech in CSE (Major in Artificial Intelligence and Data Science)*

Expected Graduation: 2027

CGPA: 8.76/10

## Experience

AlgoUniversity (Y-Combinator-backed EdTech)

[Live Demo](#) | [Source Code](#)

*Software Engineering Co-op Intern*

- Built a production-grade **full-stack online judge platform** supporting real-time code execution, automated grading, and user progress tracking.
- Integrated **Gemini API** for resume reviewing and personalized recommendations, boosting engagement by 20%.
- Added daily **activity heatmaps**, **tag-based** filters, and **dashboards** to improve problem discoverability and retention.
- Containerized microservices using **Docker**, deployed on **Render** and **Vercel**.
- Currently implementing a real-time **contest** feature using **WebSockets** to enable live interactions and dynamic updates.
- Tech Stack: React.js, Node.js/Express.js, MongoDB. Mentored by engineers from **Google**, **Apple**, **Bytedance**, and **Alphagrep**.

Amity University – USRF 2025

[Source Code](#)

*Research Intern*

*Noida, India — June – July 2025*

- Built a CNN-LSTM-attention-based **multi-label deep learning model** for physiotherapy exercise recognition using sEMG and motion sensors.
- Achieved **F1-score of 91.7%**, outperforming traditional methods like **Binary Relevance (BR)**, **Classifier Chains (CC)**, and **Label Powerset (LP)**.
- Designed real-time patient feedback system, enhancing rehabilitation assessment capabilities.
- Co-authoring a **research paper** for publication in a peer-reviewed international journal.
- Tools: Python, TensorFlow, NumPy, SciPy, signal processing libraries.

## Projects

ChatNova – AI-Powered Conversational Platform

[Live Demo](#) | [Source Code](#)

- Developed a dynamic AI chatbot platform using **Gemini API** and the MERN stack, supporting real-time messaging and prompt customization.
- Implemented secure **JWT-based authentication**, Redux for global state, and deployed on **Vercel** and **Render** for fast global access.
- Tested by 10+ users and validated across different devices with 100% uptime and bug-free functionality.
- Developed an interactive **dashboard** displaying all user chats, with features including one-click chat **summarization**, total messages, total chats, average messages per chat, and **last active date**.
- Demonstrated full-stack development, **REST API** integration and **AI** integration.

## Technical Skills

**Languages:** JavaScript, Python (NumPy, Pandas, Matplotlib), Java, c++.

**Frameworks & Libraries:** React, Node.js, Express.js, TensorFlow, Keras, Scikit-learn

**Frontend:** TailwindCSS, HTML, CSS, Bootstrap

**Cloud & Databases:** MongoDB, MySQL, AWS, Docker, Vercel, Netlify

**Developer Tools:** GitHub, VS Code, Postman, Jupyter Notebook