

## ABHISHEK SAGAR SANDA

2 Wyman Place, Jamaica Plain, Boston, MA 02130

Email: [sabhisheksagar200@gmail.com](mailto:sabhisheksagar200@gmail.com) | Mobile: +1 857-395-9451 | [LinkedIn](#) | [Hugging Face](#) | [Portfolio](#)

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### OBJECTIVE

Experienced Information Systems graduate student (GPA: 3.83) with expertise in AI-driven NLP, neural machine translation, and real-time computer vision applications. Proven track record winning AI hackathons and leading impactful technical projects. Passionate about innovating at OpenAI.

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### EDUCATION

**Northeastern University**, Boston, MA

Master of Science in Information Systems (Expected Fall 2025)

Relevant Coursework: Theory and Practical Applications of AI Generative Modeling, Advanced LLM Techniques, NLP Engineering

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### SKILLS

- **Programming:** Python, JavaScript, Java, C/C++, C#
- **Frameworks/Libraries:** PyTorch, TensorFlow, OpenCV, ReactJS, NodeJS, Flask
- **AI/ML Techniques:** NLP, Reinforcement Learning, Computer Vision, Transformer Models
- **Databases:** MySQL, MongoDB
- **Web Technologies:** REST APIs, MERN stack, ASP.NET
- **IoT:** Raspberry Pi, Arduino

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### PROFESSIONAL EXPERIENCE

**Research Software Engineer Intern**, AI for Public Safety | Virtual Presenz, MA | Sept 2024 – Dec 2024

- Engineered YOLOv8-based real-time object detection systems achieving 95% accuracy, deployed on Raspberry Pi5.
- Applied BlazePose with MediaPipe for pose estimation, enhancing predictive accuracy by 90%.
- Developed robust, interactive company website using ReactJS, effectively increasing user engagement.
- Conducted research on emerging AI technologies, informing strategic product development.

**Graduate Engineer Trainee**, Full Stack Development | HCL Technologies, Chennai, India | Aug 2022 – Aug 2023

- Delivered a .NET-based enterprise application with a 95% on-time delivery and 90% under-budget completion rate.
- Improved user engagement by 30% and reduced support requests by 10% through Agile methodologies.
- Strengthened application security by resolving vulnerabilities, decreasing SAST/DAST issues by 20%.

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### PROJECTS

#### English-to-Manipuri Neural Machine Translation System

- Built Transformer-based neural translation model with PyTorch, addressing unique linguistic challenges.
- Enhanced accuracy through custom tokenization and optimized real-time inference capabilities.

#### Richard Wyckoff Trading Assistant

- Developed an AI-powered chatbot integrated with Q-learning reinforcement algorithm for stock strategy analysis.
- Integrated Flask backend and yfinance API ensuring robust performance and real-time market insights.

#### Real-time Weapon Detection System

- Implemented a YOLO-based detection model achieving 85% accuracy in diverse video environments.
- Applied non-maximum suppression techniques to minimize false positives and optimize detection sensitivity.

#### LinguaVision: Visual-Assisted Language Learning

- Engineered multilingual translation capabilities using Helsinki-NLP models with visual content generation via Stable Diffusion.
- Created intuitive user interface with Gradio, enhancing user accessibility and engagement.

#### Roli.ai Dynamic Chatbot

- Built a customizable chatbot leveraging OpenAI's ChatGPT API for contextually relevant interactions.
- Designed specialized customer support functionalities, significantly improving user experience.

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### ACHIEVEMENTS

- Winner, Generative AI Hackathon by Roli.ai, 2024
- Winner, Project Expo, Autonomous IoT-Based Driving Car Project, 2022