SAALIHA ALLAUDDIN

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EDUCATION

Georgia Institute of Technology   **Atlanta, GA**
M.S. in Computer Science, Machine Learning Specialization.   Aug 2024 - May 2025
B.S. in Computer Science, Intelligence & People Threads (Highest Honors)   May 2022 - May 2024

Georgia State University, Perimeter Campus   **Alpharetta, GA**
A.S. in Computer Science, (Honors Scholar)   Aug 2020 – May 2022

RESEARCH INTERESTS

Application of Artificial Intelligence, Machine Learning, and Agentic AI in Reproductive Health; Computational modeling of Uterine Fibroids diagnosis and women's health outcomes.

RESEARCH EXPERIENCE

Student Researcher   Jan 2023 – May 2024
VIP - Smart City Infrastructure, Georgia Institute of Technology

- Developed a Python-based automated crash diagram tool to support GDOT engineers in visualizing and analyzing traffic incident data at intersections, reducing manual workload and enabling faster insights.
- Implemented core modules including symbol generation, data cleaning, and trajectory plotting, using libraries like Matplotlib, Shapely, and Pandas, with support for both right-angled and curved single-lane intersections.
- Contributed to the design of a GUI prototype that takes CSV crash data as input and outputs annotated crash diagrams, improving usability and facilitating real-time analysis.

Research Assistant   Oct 2021 – May 2022
Virus Hunters Lab, Georgia State University – Perimeter College

- Analyzed amino acid sequences of the SARS-CoV-2 Delta variant by comparing samples from Georgia, USA, to the original Wuhan strain, identifying key mutations in surface glycoproteins.
- Developed computational tools to automate variant evaluation and mutation detection across multiple viral genomes.

AI/ML PROJECTS

MealMaster AI Chatbot   Jan 2025 – May 2025

- Co-developed MealMaster, an AI-powered meal planning website featuring a chatbot interface built with Gradio, which generates personalized recipes with step-by-step instructions and nutritional breakdowns based on user inputs like allergies, fitness goals, and cuisine preferences.
- Built a retrieval-augmented generation (RAG) system using LangChain, integrating nutritional and dietary datasets to deliver tailored recipe recommendations through a seamless, user-centric experience.

MEL: Math Ensemble Learning   Aug 2024 – Dec 2024

- Fine-tuned Mistral model (using Hugging Face Transformers, TensorFlow, and PyTorch) on mathematical datasets to evaluate performance on reasoning tasks and developed an ensemble model to enhance accuracy and robustness.
- Analyzed ensemble outputs against individual models to identify performance improvements and collaborated with a team of 4 members for efficient model fine-tuning and development.

Customer Churn Prediction and Segmentation Model   Aug 2023 – Dec 2023

- Built interpretable ML models to predict telecom customer churn using Random Forest, SVM, and PCA for feature selection, with additional exploration of MLP and K-Means for customer segmentation.
- Applied SHAP (Shapley Additive Explanations) to enhance model interpretability, identifying key drivers of churn and providing actionable insights for customer retention strategies.

HCI PROJECTS

NEST Virtual Makerspace   Jan 2025 – May 2025
- Designed a Figma prototype of *NEST*, a virtual makerspace enabling Georgia Tech students to collaborate, brainstorm, whiteboard, and request feedback—centered around the theme of self-improvement through campus resources.
- Followed a user-centered design process including requirements gathering, alternative design exploration, user interviews, usability testing, and iterative prototyping to create a user-centric experience.

Forsee Your Route App   May 2023 – Jul 2023
- Designed and prototyped a mobile app, *Foresee Your Route*, to assist runners in planning comfortable routes by integrating en route amenities (e.g., water fountains, restrooms, elevation) and re-routing alerts for obstacles like construction or emergencies.
- Led end-to-end user-centered design process over 2 months: conducted stakeholder interviews and surveys, synthesized insights into actionable requirements, developed wireframes and an interactive Figma prototype, and iteratively improved the design based on user testing feedback.

TEACHING EXPERIENCE

Graduate Teaching Assistant — Machine Learning   Jan 2025 - May 2025
Georgia Institute of Technology
- Evaluated 35-50 student reports per cycle and provided constructive feedback on assignments to enhance student understanding.
- Created Multiple-choice questions for final exams, provided course feedback for continuous improvement, and collaborated in weekly TA meetings.
- Led problem overviews in office hours, contributed to Education Discussion (Q&A) forums, and developed supplemental resources to support assignments.

Computer Science Tutor   May 2023 – Dec 2024
HIVE, Georgia Institute of Technology
- Provided one-on-one tutoring sessions to students in 4 core Computer Science courses.
- Adapted pedagogical methodologies in accordance with students' diverse learning styles.
- Taught debugging techniques, clean coding practices, and encouraged critical thinking and problem-solving skills.

Teaching Assistant — CS 1100   Aug 2023 – Dec 2023
*CoC First-year/Transfer Mentorship Program**, Georgia Institute of Technology*
- Evaluated and provided constructive feedback on over 20 resumes and threaded presentations.
- Actively participated in scheduled team meetings, contributing insights and staying informed about the program developments.

PROFESSIONAL EXPERIENCE

Junior Software Development Engineer   Aug 2025 – Present
Relevantz Technology Services, Inc.
- Undergoing Salesforce training focused on Agentforce to build, integrate, and personalize AI-powered agents for enterprise clients.
- Collaborating on solutions that leverage Salesforce ecosystem capabilities to deliver automated support, enhanced customer engagement, and personalized business workflows.
- Gaining hands-on experience in agent development, system integration, and enterprise support workflows to drive business value for partner organizations.

Student Assistant   May 2023 – Dec 2024
HIVE, Georgia Institute of Technology
- Assisted in planning and organizing campus events, workshops, interviews, orientations, and info sessions.
- Organized documents and replenished materials in supply and storage rooms.
- Provided comprehensive support to students, faculty, staff, and visitors by promptly addressing inquiries.

Software Engineering Fellow   Jul 2024 – Aug 2024
Headstarter AI Fellowship
- Participated in a competitive 7-week SWE fellowship program focused on coding, building, and generating revenue.

- Built 3 projects using Next.js, HTML, CSS, Tailwind, Clerk, ReactJS, Firebase, and OpenAI.

Communication Assistant   Jul 2021 – May 2022
Georgia State University – Perimeter College
- Designed and launched the communications website using WordPress, completing the project 50% ahead of schedule and maintaining content updates on a bi-weekly basis.
- Created and iterated marketing materials—including newsletter templates and CS/ENGR flyers—using Canva; incorporated stakeholder feedback and delivered designs 33% earlier than the deadline.
- Curated and distributed a bi-weekly newsletter to 2000+ students, identifying relevant opportunities through weekly meetings and aligning content with the interests of CS and engineering students.

LEADERSHIP AND SERVICE

Computer Science Mentor   Aug 2023 – Dec 2023
CoC First-year/Transfer Mentorship Program, Georgia Institute of Technology
- Guided 20+ mentees, enhancing engagement by inviting them to campus events.
- Worked with mentors to organize networking events, fostering connections among mentees.
- Addressed academic and registration inquiries, providing resources for mentee success.

Honors Student Ambassador   Oct 2021 – May 2022
Perimeter College Honors Ambassador Program, Georgia State University
- Partook in college special events like Music BINGO and Open Houses.
- Interviewed the Honors Dean Finalist as a GSU Alpharetta campus Honors representative about their qualifications and accomplishments to become the Honors Dean.

Perimeter Student Ambassador   May 2021 – May 2022
Perimeter College Ambassador Program, Georgia State University
- Attended monthly training meetings and a leadership retreat hosted by the Board of Advisors.
- Hosted Georgia State's new president Dr. M. Brian Blake during his campus "meet and greets."
- Assisted faculty at Class of '21 commencement, handling names of 200+ graduates.

HONORS AND AWARDS

Faculty Honors, Georgia Institute of Technology	Fall 2023
Dean's List, Georgia Institute of Technology	2022 - 23, Spring 2024
STAR Award in Computer Science, GSU Honors Perimeter College	2022
Mathematics Student of the Semester (Linear Algebra), Georgia State University	Spring 2022
President's List, Georgia State University	2020 - 22

PROFESSIONAL DEVELOPMENT

CITI Program Certification   Feb 2024 – Feb 2027
- *Group 2 Social / Behavioral Research Investigators and Key Personnel*

IEEE Membership (Sponsored), Georgia State University   Nov 2021 – Jan 2023

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML, CSS, Salesforce Apex
Frameworks & Tools: TensorFlow, PyTorch, LangChain, Hugging Face, React, Next.js, Tableau, Matplotlib, Pandas, GitHub, Salesforce Lightning Web Components
Core Competencies: Machine Learning, NLP, Data Visualization, UI/UX Design, LLM Fine-tuning, Human-Centered Design, Salesforce Agentforce

LANGUAGES

English: Fluent
Deccani Urdu: Fluent
Hindi: Fluent
Tamil: Fluent
Spanish: Beginner