SAESHA LOONKER

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EDUCATION

The University of Texas at Austin, Austin, TX   May 2029
Bachelor of Science, Mechanical Engineering
Elkins High School, Sugar Land, TX   May 2025
GPA: 4.2, Summa Cum Laude, AP Scholar with Distinction, Commended National Merit Scholar

SKILLS

Technical Skills: *Advanced AWS SageMaker, Advanced Python, Advanced C++, Intermediate HTML, Advanced JavaScript, Lean Launchpad, Stanford Design Thinking, Intermediate SolidWorks/CAD*
Languages: *English – Native, Hindi – Native*

EXPERIENCE

BAYLOR COLLEGE OF MEDICINE, Houston, TX   June 2025 – August 2025
AI/ML Research Intern
- Engineered patient-matching algorithms using semantic search from embeddings utilizing FAISS and BGE-M3 and Claude 3 LLM reranking; deployed scalable pipelines on AWS (utilizing AWS SageMaker and Bedrock LLMs) to optimize retrieval accuracy across rare disease datasets.
- Preprocessed & embedded real data from Texas Children's patient cases; benchmarked algorithm performance using Claude 3 and BGE-M3 with FAISS across multiple datasets.

HOFSTRA UNIVERSITY'S SUMMER SCIENCE RESEARCH PROGRAM, Long Island, New York   June 2024 – August 2024
Research Intern (Behavioral Engineering Lab)
- Led a 4-person team to design & build a functional workout reinforcement device aligned with the CURE Habit Loop framework using Arduino microcontrollers and hardware and programming integration.
- Utilized C++ and Arduino logic for sensors (infrared, accelerometer) to detect movement patterns and trigger feedback.

FORT BEND COUNTY JUDGE'S OFFICE, Sugar Land, TX   September 2022 – June 2023
Research Intern (Behavioral Engineering Lab)
- Chosen for a competitive 10-month-long internship to drive sustainable changes in Fort Bend County.
- Secured funds and executed new recycling systems in wasteful areas alongside a recycling awareness campaign in coordination with County Judge officials, resulting in recycling bins being phased into Town Center.

YOUTH EXECUTIVE COMMITTEE ISTART VALLEY, Dallas, TX   October 2021 – May 2025
Associate Vice President & Technology Committee Lead
- Mentored a team of twelve in planning and executing successful marketing strategies for iStart Valley and collaborated with other executives to increase the company's following by 500%.
- Planned and organized four events and outreach programs, such as a Global Startup Battle and Entrepreneurship Week Summit, to foster innovation, build partnerships, and increase brand visibility.

PROJECTS

MIND SHIELD - PTSD PROJECT   April 2024 – Present
- Developed software for PTSD victims that reduces online triggers by identifying and eliminating specific words and phrases, entirely customizable for the user. Utilizes Python and HTML.
- Programmed a front-end Chrome extension that blocks these trigger words. Currently developing Agentic AI and under beta testing with plans to monetize.

PUBLISHED WORKS

PAPER – ASSOCIATION OF MOLD EXPOSURE WITH ATOPIC DERMATITIS   September 2023 - February 2024
Published in Journal of Student Research (High School)   https://doi.org/10.47611/jsrhs.v13i2.6681
- Conducted comprehensive research on mold exposure and its association with atopic dermatitis, highlighting increased disease severity in mold-contaminated environments and potential immune and skin barrier responses. The paper was approved and published in JSR(HS).

BOOK & BLOG – IN MY OWN SKIN   October 2023 - October 2024
- Self-published a personal memoir on managing eczema, sharing insights, challenges, and recovery strategies.
- Authored and maintained a blog, writing reflective posts to support others with chronic skin conditions.