

# KRITHIKA SUBRAMANIAN

krithi.subra@gmail.com | Austin, TX | (972) 295-0275

[linkedin.com/in/krisub](https://www.linkedin.com/in/krisub) | [github.com/krisub](https://github.com/krisub)

## EDUCATION

University of Texas at Austin, Austin, TX

December 2025

**Bachelor of Science in Computer Science; GPA: 3.80**

**Relevant Coursework:** Data Structures and Algorithms, Computer Organization and Architecture, Principles of Computer Systems, Machine Learning I, Linear Algebra, Discrete Mathematics, Probability I, Multivariate Calculus

Cornell University

May 2025

**Machine Learning and Data Science Certification, Break Through Tech AI Scholar**

Selected from 3000+ applications for a scholarship program designed to approach relevant business problems and create technical artifacts with large-scale, real-world datasets to develop machine learning models through CRISP-DM

## EXPERIENCE

**Machine Learning Fellow**

August 2024 - present

Google, [Break Through Tech](#)

- Developing and fine-tuning ML models to predict viral potential of YouTube videos using early engagement metrics, video metadata, and external factors like social media trends, resulting in a significant increase in predictive accuracy
- Streamlining data preprocessing by cleaning and extracting features from **YouTube Data API** and **Google Trends** dataset and incorporating attributes into classifiers, regressors, and time-series models

**Full Stack Intern**

June 2024 - August 2024

GlobalSource Collective, AssureSME

- Developed an internal task management system using **Angular** and **NestJS**, improving task tracking efficiency by 50% and enhancing data retrieval speed with a **MySQL** and **MikroORM** database implementation
- Optimized frontend UI/UX performance with lazy loading and code splitting, achieving a user satisfaction score of 9/10
- Integrated ETag headers in a **CRUD**-designed **RESTful API** for cache control and optimistic concurrency management

- Migrated client infrastructure to the cloud, achieving a 40% reduction in operational costs and increasing system scalability through optimized resource allocation via **Azure SQL Database**, VMs, and object-based **blob storage**
- Implemented robust cloud security protocols, including **IAM** roles and policies to enhance data protection
- Automated deployment processes using **CI/CD pipelines** with Azure DevOps and custom scripts, decreasing deployment times by 70% and minimizing human errors

**Department of Astronomy Researcher**

August 2023 - present

College of Natural Sciences Research Initiative

- Developing and testing ML models (XGBoost, Random Forest, SVM, Neural Networks) to classify low-surface brightness galaxies into morphological types with advanced Python libraries like **TensorFlow** and **scikit-learn**
- Employing **Astropy** as a statistical analysis tool to process, filter, and crossmatch data from SDSS, Galaxy Zoo, and VLA First catalogs, ensuring data completeness across key photometric features (magnitude bands) and redshift
- Pioneering a novel classification approach by utilizing solely quantifiable data for galaxy type identification, eliminating the need for manual classification, and setting the stage for more efficient large-scale galaxy surveys

## PROJECTS

**Treatsi: WiCS Annual Hackathon** | [View](#)

February 2024

- Achieved Best Novice Hack at a highly competitive hackathon, surpassing 210 participants by building a web application to showcase locally-owned restaurants as alternatives to often presented mainstream options
- Implemented real-time data storage and updates using **SQLite** databases and Python, developed **Flask** API endpoints to handle business search and validation, and designed an interactive and appealing user interface with **Figma** and ReactJS

**Engineering and Computational Learning of Artificial Intelligence in Robotics** | [View](#)

August 2023 - January 2024

Beginner's Track Team Lead for Home Automation Project

- Collaborated with a team of 20 students in implementing a full-stack home automation system using Python Flask for the backend and **ReactJS** with **TypeScript** for the frontend web interface
- Enabled users to remotely control home appliances connected to a RPi, streamlining user interaction and functionality
- Leveraged SQLite and RESTful API for seamless communication between layers to significantly reduce latency in execution

- Enhanced system efficiency and optimized real-time appliance management by integrating **Whisper API** for spoken command interpretation and **Raspberry Pi GPIO** controls

### FIRST Robotics (FRC)

August 2022 - May 2023

#### Software and Electrical Subteam

- 10th place at FIT Amarillo Event & Judge's Award for Best All-Rounder Team
- Led code reviews and subsystem testing, utilizing Java and the **WPILib** Suite to ensure robust performance and seamless hardware-software integration, including managing cohesive functionality through **Autodesk Inventor** for mechanical design
- Engineered the development of vision processing algorithms for autonomous navigation, leveraging tools like **OpenCV** and **AprilTag** to enhance robot localization accuracy by 25% compared to other competition teams

### Handwriting Based Parkinson's Disease Diagnosis | [View](#)

June 2022 - April 2023

- Developed a machine learning program using an **LSTM neural network** in Python to diagnose Parkinson's Disease through handwriting analysis, achieving high accuracy with a 0.998 probability in detecting PD
- Converted neural network into a **TensorFlow Lite** model and integrated into a Java-based mobile application, applying object-oriented programming, machine learning, and data analysis skills
- Reduced diagnostic costs by over 50% by developing an inexpensive, novel manual risk identification method through Gaussian curvature and Hausdorff spaces to analyze kinematics and compensate for anomalies

### Determining Soil Organic Matter | [View](#)

June 2021- April 2022

- Created a Java OOP **Android application** that utilized live camera feed and Munsell color features to analyze soil samples and achieved 44.9% accuracy in predicting soil organic matter via an interpretable **linear regression** model
- Improved the efficiency and cost-effectiveness of soil analysis by leveraging RGB color analysis and linear regression ML techniques in **Python**, reducing reliance on expensive spectrometry and environmentally damaging loss-on-ignition tests

### Detecting Abnormal Breathing Patterns for COVID-19 Diagnosis

May 2020 - April 2021

- Developed a **mobile app** for self-diagnosing respiratory health using **Java OOP** and computerized sound analysis techniques and attained an average accuracy of 98.8% in determining respiratory rate, comparable to FDA-approved pulse oximeters
- Implemented a smartphone-based solution that improved accessibility of respiratory diagnostics to eliminate the need for expensive lung tests and making self-diagnosis possible for a broad population

## TECHNICAL SKILLS

- **Programming, Scripting Languages:** Java, Python, C, C#, SQL, JavaScript, TypeScript, HTML, CSS, Bash, PowerShell
- **Tools, Frameworks/Libraries:** Git, Azure, Angular, React, Node.js, NestJS, MySQL, MikroORM, Flask, Figma, Lucid
- **ML Tech Stack:** TensorFlow, Keras, scikit-learn, pandas, NumPy, Matplotlib, seaborn