# AMAL BABU

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## EDUCATION

**The University of Texas at Austin**                                            *Aug 2020 – May 2024*

*B.S., Computer Science & B.A, Mathematics & Applied Statistical Modeling Certificate          GPA: 3.8*

- Relevant Coursework: *Software Engineering, Neural Networks, Data Structures, Algorithms, Applied Statistics, Calculus, Safe and Ethical AI, Linear Algebra, Operating Systems, Computer Architecture, Real Analysis*

## EXPERIENCE

**Charles Schwab**

*Software Engineering Intern*                                            *Jun 2023 – Aug 2023*

- Deployed a full-stack web application allowing Schwab developers to find and reuse thousands of internal APIs.
- Worked C#, .Net, Angular, MongoDB to develop frontend, aggregate backend pipeline, APIs and data scripting
- Followed AGILE methodology, demoing weekly to architects, stakeholders, and management to Director level.

**Colaberry Inc.**

*Software Engineering Intern*                                            *Jan 2022 – Aug 2022*

- Deployed Django Python API as NLP data pipeline to gain insights on video 1000+ transcriptions from AWS
- Cleaned and processed datasets to train a model using Hugging Face transformers, PyTorch, and Pandas
- Deployed word cloud data visualization onto official company website, servicing 100% of new users

**University of Texas Research**

*Trustworthy Intelligent Systems Developer*                                            *Jan 2023 – May 2023*

- Contributed to search/retrieval model for math theorems, using object-oriented principles and reusable code
- Optimized algorithms that allowed evaluation to complete 1000% quicker

*Robotics Research Developer*                                            *Jul 2021 – Dec 2021*

- Created a style-transfer neural network architecture to generate realistic human motion in Virtual Reality
- Replaced autonomous navigation stack for robots to account for traffic, sped up travel time by 20%
- Refactored thousands of datapoints to be compatible with UT's Virtual Reality data collection system

## PROJECTS

**Clic |** *Swift, C, Arduino, API*

- Safety clip that calls police and shares location. Bluetooth Arduino using iPhone hardware, affordable for students.

**Algorithmic Trading |** *Python, QuantConnect, Algorithm Development, Machine Learning*

- Developed trading algorithm using traditional algorithmic techniques backed with AI, returns 40% in backtest over a year on a $1,000,000 initial investment. Testable with custom backtesting environment and QuantConnect

**Transcription Anomaly Detection |** *Pytorch, Flask, Natural Language Processing*

- Given a transcript, this program uses AI and stats to detects words that were incorrectly transcribed from video

## COMMUNITY INVOLVEMENT

**Texas Convergent** | *Technical Lead*

- Creating and teaching curriculum to develop technical skills such as AI, Github, React and JS, and Scrum
- Created full front end iOS application complete with endpoints for backend integration for startup Libra

**Frisco Tutoring Service** | *Founder*

- Taught struggling students object-oriented programing, data structures and algorithms, as well as high school math

## SKILLS

**Programming Languages:** Python, Java, C++, JavaScript, HTML, CSS, R, ROS, AJAX, SQL, React, C#

**Technical Skills:** Git, Docker, Machine Learning, Web Development, Mobile Apps, Git, Pipelines, APIs, Optimization