

# Cole Plagens

281-707-8817 | [colep3@icloud.com](mailto:colep3@icloud.com) | [linkedin.com/in/cole-plagens](https://www.linkedin.com/in/cole-plagens) | [github.com/Colep39](https://github.com/Colep39) | [coleplagens.com](https://coleplagens.com)

## EDUCATION

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### University of Houston

Houston, TX

*Bachelor of Science in Computer Science, Minor in Mathematics, GPA: 3.6*

*Dec. 2025*

- Relevant Coursework: Database Systems, Data Structures and Algorithms, Data Science I, Data Science and Statistical Learning, Software Design
- Dean's List Fall 2023 - Fall 2025

## PROJECTS

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### ChatterBox - Social Media App

Dec. 2025 – Present

- Developed a full-featured social media web application using React, TypeScript, and Appwrite, featuring secure authentication, user profiles, post creation/editing, likes, and saved content
- Improved performance and user experience by integrating TanStack React Query for efficient data fetching, caching, and mutations, alongside a responsive, mobile-first UI built with Tailwind CSS and shadcn/ui

### Volunteer Activity Application

Sept. 2025 – Nov. 2025

- Built a full-stack volunteer management application using the PERN stack, enabling secure user authentication, role-based access for admins and volunteers, and full event lifecycle management
- Implemented an automated volunteer–event matching system based on user profiles, skills, and availability, with notifications and participation tracking to streamline coordination and improve engagement, all powered by Supabase

### Theme Park Management System

Jan. 2025 – Apr. 2025

- Developed a full-stack Theme Park Management System using React and ASP.NET, implementing role-based authentication (Visitor, Staff, Admin) to support ticket purchasing, ride and shop browsing, and user profile management
- Designed and implemented a MySQL relational database with complex queries and trigger-based constraints to enforce data integrity for ride status, maintenance workflows, and featured attractions
- Built responsive admin and staff dashboards in React with full CRUD functionality and analytical reporting for revenue, ticket sales, maintenance costs, ride breakdowns, and popularity metrics over configurable time ranges
- Deployed the application using Azure for backend services and database hosting, with the frontend hosted on Vercel for scalable production delivery

## EXPERIENCE

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### CougarCS Tutor

Sept. 2025 – Dec. 2025

*University of Houston*

*Houston, TX*

- Collaborated with students and other tutors in the department to provide valuable help to students needing assistance with their programming assignments and examination preparation
- Troubleshooted student programs through rigorous C/C++ programming assignments requiring challenging implementations of course content

### Crew Member

July 2022 – Aug. 2023; May 2025 – Present

*Firehouse Subs*

*Houston, TX*

- Provided excellent customer service in a fast-paced, team-oriented environment
- Upheld franchise best practices and protocols for food handling safety and efficiency

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, SQL (PostgreSQL, MySQL), JavaScript, Typescript, C#, HTML/CSS, R

**Frameworks, Libraries and Runtimes:** React, Node.js, Express, ASP.NET, Next.js

**Developer Tools:** Git, GitHub, Docker, Supabase, VS Code, Tailwind CSS

**Data Science / ML:** Pandas, NumPy, Matplotlib, Seaborn, scikit-learn, Jupyter Notebook, TensorFlow, PyTorch