Peal Hasan

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EDUCATION

Stony Brook University   Expected May 2026
Bachelor of Science in Computer Science | GPA: 3.78   Stony Brook, NY
- Relevant Coursework: Object Oriented Programming JAVA, Data Structures and Algorithms, C Programming, Computing in Python, Software Development with HTML, CSS, Javascript, React, and PostgreSQL
- Active Member of Stony Brook Computing Society, participating in weekly programming collaborations

TECHNICAL SKILLS

Languages: Typescript, Java, Python, C, Javascript, HTML, CSS
Frameworks: React, Node.js, Next.js, Express.js, REST API
Developer Tools: Git, Postman, Jest, Firebase, Vite
Libraries: jQuery, Axios, Pandas, NumPy, Scikit-Learn
Databases: SQL (PostgreSQL), NoSQL (MongoDB)

EXPERIENCE

UX/UI Intern   Oct 2022 – March 2023
Plant3r LLC   Remote
- Enhanced overall app performance by 15% by implementing Figma-based front-end screens in the Plant3r Assistant MVP app on bubble.io, leveraging UI/UX design principles and interactive prototyping
- Achieved a bug-free user experience and reduced response times by 20% by conducting rigorous testing with Jest and Postman and swiftly rectifying bugs in the development process
- Reduced data processing time by 30% and enabled instant acceptance probability predictions by streamlining data transfer functions between the database and app screens

Research Assistant   March 2022 – May 2022
SpotELF Inc   Brooklyn, NY
- Spearheaded Talantra app planning, reducing project timeline by 30% by connecting users to local art events through strategic vision and efficient project management
- Enhanced operational efficiency by 12% and reduced response times by 20% by facilitating clear oral communication between stakeholders and the development team
- Led cross-functional team with Slack, improving task completion rate by 25% through timely milestone delivery

PROJECTS

Sign Language Recognition ML Model and Learning Platform | Github | Website   July 2024 – Aug 2024
- Developed a machine learning model achieving 98.98% accuracy, by training a Random Forest Classifier with scikit-learn on an 87,000 image dataset, enhancing real-time ASL sign recognition
- Engineered a real-time ASL recognition system, processing over 1,000 frames per minute by integrating Mediapipe and OpenCV with a Flask backend, enabling accurate hand sign detection and feedback
- Designed an interactive frontend with Next.js and Tailwind CSS, achieving a 100% real-time feedback system with percentage match and progress tracking for ASL learning
- Reduced authentication time by 50% by implementing secure user authentication and data storage, utilizing Google OAuth 2.0 and PostgreSQL, to efficiently manage user information and track learning activities

AI-Powered Twitter/X Newsletter and Podcast Service | Github | Website   June 2024 – July 2024
- Increased user engagement by 50% for over 100 potential daily newsletter subscribers by designing and implementing a responsive front-end with Vite, TypeScript, and React, delivering a seamless user experience
- Developed and secured back-end services with Express, TypeScript, Passport (Local and Twitter Authentication), and stored sessions on Redis, reducing response time by 40% by optimizing API calls with Lodash and caching
- Executed CRUD operations on MongoDB via a user-friendly admin dashboard, improving data integrity and user satisfaction by 30% by enabling users to create, read, update, and delete profiles and preferences
- Integrated Twitter API for auto-suggestions and tweet retrieval, boosting content delivery efficiency by 60% by generating newsletters with Google's Gemini 1.5 Flush API and podcasts via OpenAI's Text-to-Speech API, distributed through SendGrid Email API