

# Julian Hart

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## EDUCATION

### Computer Science

2027 | Storrs

University of Connecticut

- Studying Data Structures, Algorithms, Python Development, and Systems. Concentration in Algorithms and Theory.

### Computer Science

2024 | Manchester

CT State Community College

- Completed coursework in Java development, Discrete Mathematics, SQL, MongoDB, HTML, CSS, Tailwind, and JavaScript.
- Graduated on the Dean's List.

## PROFESSIONAL EXPERIENCE

### Web Development Intern

Sep 2024 – present

University of Connecticut

- Designed and maintained backend architecture for university websites, insuring uptime, and handling more than 1000 daily visitors.
- Engineered and optimized RESTful API endpoints, increasing site speed and reliability by 50%.
- Automated data migration processes from Airtable using Python, reducing manual effort by 5 hours weekly.

### Co-Founder / Front End Software Engineer

Jun 2024 – present

CheckUP LLC

- Developed core user-facing features for a mental health SaaS platform, enabling seamless user registration and activity tracking.
- Partnered with the back-end team to integrate user data and authentication using Clerk, improving onboarding efficiency by 80%.
- Designed and built responsive user interfaces with React and Tailwind CSS, ensuring WCAG 2.1 accessibility compliance and smooth cross-device performance.
- Spearheaded the platform's UX/UI design process, ensuring a cohesive user journey that increased user satisfaction by 50%.

## PROJECTS

### Pneumonia Classifier

- Built and trained a convolutional neural network (CNN) in PyTorch to detect pneumonia from chest X-ray images with high accuracy.
- Applied data preprocessing and augmentation techniques using Albumentations and Pillow to enhance model performance.
- Deployed the trained model as a Flask API and hosted it on Render with real-time image classification support.

### Encryption Library

- Built a modular encryption library in C, implementing secure AES and RSA algorithms for symmetric and asymmetric encryption.
- Leveraged low-level memory management using pointers and custom data structures to handle key generation, padding, and block cipher operations efficiently.
- Designed and tested the library with a command-line interface for file encryption/decryption

### Video Meeting App

- Developed a scalable meeting application using Next.js and TypeScript, supporting up to 50 concurrent users with seamless cross-platform functionality.
- Implemented meeting scheduling and real-time communication features, resolving cross-platform compatibility issues to enhance user experience.

## SKILLS

### Languages

Java, JavaScript (ES6+), TypeScript, Python, SQL, C, C++

### Other

Git, Excel, Office, OneNote, Linux (Ubuntu), Data Structures, Algorithms, Cross-Platform Development

### Web Technologies

React, Next.js, Node.js, Express.js, MongoDB, Redux, RESTful APIs, GraphQL, Tailwind CSS, HTML5, CSS3, Bootstrap, AWS, WordPress