

Baazil Akhlaque

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EDUCATION

University of Rochester | Hajim School of Engineering **CGPA: 3.85 / 4.00** **Rochester, NY**
• B.S. Computer Science | Minor Economics *Aug 2022 – May 2026*
• **Relevant Coursework:** Data Structures & Algorithms, Design & Analysis of Efficient Algorithms, Computer Organization, Discrete Mathematics, Theory of Computation, Linear Algebra, Artificial Intelligence, Statistics
• **Awards and Honors:** Awarded Dean's Merit Scholarship for 4 years, Dean's List for all semesters (3/3)

SKILLS AND FRAMEWORKS

- **Skills:** JavaScript, TypeScript, Java, Node.js, React.js, MongoDB, Convex, Python, C, C++, R, SQL, CSS, HTML
- **Frameworks:** Git, React.js, Next.js, Node.js, Django, Mongoose, Express.js, EJS, Bootstrap, Tailwind

WORK EXPERIENCE

Rochester Human-Computer Interaction Lab – Full Stack Engineering Intern *May 2024 – Present*
• Maintain an AI application 'PARK' that remotely assesses the motor performances of Parkinson's disease patients.
• Customize the front-end using **Next.js, TypeScript & Tailwind** to improve UI/UX, increasing accessibility by 30%.
• Employ **Prisma** backend for more efficient user data management, increasing efficiency by 20%.
• Integrate an AI chatbot to personalize interactions & give quick responses, boosting website engagement by 25%.
• Collaborate with cross-functional teams to implement continuous improvements for optimal user experience.

University of Rochester – Research Assistant @ Horizon Labs *May 2024 – Present*
• Research on how StyleGAN2 ADA models classify, learn & predict artistic styles from images of Chinese paintings.
• Write **Python** scripts to curate a data set of ~3000 paintings scraped from MET & Art Institute of Chicago APIs.
• Develop an image preprocessing technique to standardize training images using aspect ratios & data normalization, boosting GAN training efficiency by 30%.
• Perform image filtering by using OpenAI's 'CLIP' to collect similar Chinese paintings as per the CLIP model.
• Participate in weekly meetings with the Professor to show progress, present ideas & set up future goals.

University of Rochester – Teaching Assistant | Data Structures and Algorithms *Apr 2023 – Present*
• Assist professors teach 200+ students covering topics including trees, graph algorithms, and dynamic programming.
• Lead a weekly lecture review with 20+ students, upskill students with best coding practices & optimizing algorithms.
• Design weekly material, and lesson plans that average a 90% completion rate.
• Recently conducted research on "Exploring Efficient Methods of Learning Computer Science through Learner Feedback" by surveying approximately 150 students and devised a layout for ideal workshops and lab assignments.

PROJECTS

AI Podcast Generator – Next.js, TypeScript, Convex, Tailwind, Shadcn, OpenAI, Clerk
• Built a responsive full stack AI application that allows users to create, view, search & delete AI generated podcasts.
• Developed the front-end using **Next.js, TypeScript, Tailwind & Shadcn** for better UI/UX.
• Utilized **ConvexDB** for CRUD operations & dynamic data rendering, incorporating secure user authentication.
• Used **OpenAI APIs** for podcast creation with text-to-audio conversion with multi-voice AI & AI image generation.
• Implemented secure & reliable user login and registration system using **Clerk**.

StoryBooks – Node.js, passport.js, Express.js, MongoDB
• Built an application where users could post, edit and delete their public and private stories.
• Configured CRUD operations for backend API with **Node** and **Express.js** to enable user interactions & data filtering.
• Implemented login using passport.js and added Google login features using **OAuth**.

Huffman File Compression Program – Java
• Implemented a lossless file compression program using Huffman encoding algorithm for optimal rates & efficiency.
• Achieved 80%+ size reduction across multiple formats, optimizing user storage significantly.
• Processed diverse file types (including .txt & .jpg files), affirming the versatility of the algorithm.