Mohammad Hasibur Rahman

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EDUCATION

University of Texas at Arlington — December 2026
Bachelor of Science in Computer Science — GPA: 3.53
Extracurricular Activities: Founder, AI Club – UTA; IBM TechXchange 2024 Conference Attendee

TECHNICAL SKILLS

- Languages: Python, Java, C, C++, C#, HTML/CSS, JavaScript, TypeScript, SQL, MATLAB
- Frameworks: React, React Native, Next.js, Tailwind, Express.js, OpenCV, Flask, TensorFlow, Keras, PyTorch, Scikit-learn
- Tools: Git, MongoDB, SQL, Azure, Jupyter, Vercel, Firebase, AWS, Unity
- Concepts: Frontend, Backend, GenAI, RAG, Computer Vision, Machine Learning

EXPERIENCE

Headstarter AI | New York — July 2024 – August 2024
Incoming Software Engineering Fellow

- Developed and completed AI projects (Customer Support AI, Flashcard with Paywall (SaaS), Rate My Professor RAG) using React/NextJS, MUI, Firebase, AWS EC2, Lambda, OpenAI, Auth/Payment/Server, Embeddings/Vector DBs.
- Participated in weekend hackathons, resume reviews, and interview prep.
- Achieved 1000 sign-ups for the final product in the last week of the program.

Undergraduate Research Opportunity Program | Arlington, TX — January 2024 – May 2024
Research Assistant | *Android Studio, Java, Machine learning*

- Developed an app using Unity to display a 3D interface based on signal data.
- Enhanced user interactivity by 40% through intuitive design and interactive elements.
- Integrated app with Meta Quest 3 for immersive 3D visualization of signals in noisy environments.

University of Texas at Arlington | Arlington, TX — August 2023 – May 2024
Undergraduate Student Assistant | *Yolov5, Roboflow, PyTorch, Python, Deep Learning*

- Developed a computer vision model to for signal detection using Yolov5.
- Annotated 1000 signal images with Roboflow.
- Trained the model using Pytorch, improving accuracy by 35% more.
- Demonstrated the risk of undetected radar signals by applying Gaussian, Salt & Pepper, and Speckle noise to the spectrums.

PROJECTS

MatchX Collaboration System | *React, Node.js, Clerk, MongoDB, Vercel* — October 2024

- Designed and developed a web application using React for the frontend and Node.js for the backend to match users for sports collaboration based on location, interests, and availability.
- Used Clerk for authentication and integrated MongoDB for user data storage and implemented direct messaging, improving user accessibility by 40%.
- Deployed on Vercel, ensuring seamless performance and scalability for over 500 users.

Minify – Personal Finance Management App | *React Native, Firebase, Clerk, MongoDB* — September 2024

- Designed and developed a mobile app using React Native for tracking income, expenses, and budgeting, offering users personalized financial management features.
- Implemented Firebase as the backend for real-time data synchronization and Clerk for secure user authentication, boosting user engagement by 35%.
- Integrated MongoDB for efficient data storage, enabling detailed analytics on spending patterns and improving financial insights by 40%.

PictureFlash - Smart Flashcards | *React, Node.js, Express.js, MongoDB, Cloudinary, JWT Authentication* — August 2024

- Built with React for the flashcard interface and Express.js for the backend API, handling user sessions and CRUD operations, improving data management efficiency by 30%.
- Integrated MongoDB to store user-specific flashcards and image metadata, achieving 40% faster retrieval with optimized querying.
- Deployed on Heroku, with images stored via Cloudinary, enhancing image loading performance by 25%.

Microsoft Imagine Cup - Passed preliminary stage| *Unity, Android Studio, C#, Java* — February 2024

- Developed AR/VR applications to enhance signal detection capabilities, leveraging Android Studio and Java for seamless SSH integration.
- Enhanced model sophistication by integrating machine learning for autonomous learning and data adaptation.

ACHIEVEMENTS & HONORS

Global Top 100 Project Submission – IBM TechXchange pre-conference hackathon — October 2024
Arlington Conservation Council Scholarship ($1000) — April 2024
Nokia Outstanding Pre-Professional CS Student ($1000) — April 2024
Open Award (UTA Research Commons) for most viewed project for "Minions Fitness Tracker" — March 2024
MathWorks Challenge (Ranked 2nd) — April 2023

PUBLICATIONS

- "Silicon Carbide Monolayers for Gas Sensing in Astrophysical Environments: Insights into Long-Term Climate Sustainability", in NASA Astrobiology and Future of Life Meeting [Accepted]. — October 2024
- "A Systematic Literature Review on the Application of Artificial Intelligence and Machine Learning in Personalized Medicine: Methodological Advances and Emerging Trends", In SSRN [Accepted]. — August 2024
- "Speclearn: Spectrum Learning in Shared Band under Extreme Noise Conditions," In IEEE Explore International Symposium on Dynamic Spectrum Access Networks" [Accepted]. — May 2024