SHAMS ABRAR

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EDUCATION

Drexel University, *Philadelphia, PA*   *Sept 2023 – Jun 2028*
BSc: Computer Science | Minor: Mathematics | *STARS Scholar | Dean's List | Drexel AI | Hack4Impact*   **GPA: 3.75**
Related Coursework: Intro to Software Engineering, Advanced Programming Techniques, Mathematical Foundations of CS

SELECTED EXPERIENCES

StemflowAI   *Jan 2024 – Present*
Full-Stack Engineer | Project Manager   *Philadelphia, PA*

- Engineered an AI-driven **MERN** stack platform, **boosting knowledge retention by 400%** with automated flashcards
- Refined educational content by analyzing 50+ YouTube video transcripts with **LLAMA**, boosting user engagement
- Optimized user interactions across **100+ tests**, enhanced AI accuracy, and managed **Agile/JIRA**-driven project timelines

Vertically Integrated Research Program (The Future of Power & Energy)   *Jan 2024 – Present*
Machine Learning Engineer   *Philadelphia, PA*

- Upgraded legacy detection system with **TensorFlow Lite** on **Raspberry Pi**, improving aquatic fish recognition by 10%
- Revamped **OpenCV** architecture utilizing Agile methodologies, improving **memory efficiency** and **sensor responsiveness**
- Directed project workflows with **JIRA**, accelerating deployment and enhancing code quality through systematic reviews

Bangladesh Atomic Energy Commission (Institute of Radiation & Polymer Technology)   *Jan 2022– Jan 2023*
Research Assistant   *Dhaka, Bangladesh*

- Authored a review on industrial wastewater management, examining over **50 articles** to advance sustainability practices
- Conducted jute composite demonstrations for **100+ students**, enhancing practical skills in sustainable materials
- Pitched advanced research techniques as the **youngest team member**, contributing to strategic environmental projects

Sir Salimullah Medical College Mitford Hospital   *Feb 2023– Dec 2023*
Data Analyst | First Author   *Dhaka, Bangladesh*

- Published research as **lead author**, crafting detailed data visualizations in **Excel** to support findings for a **peer review**
- Utilized **SPSS** to assess **450+ SA cases**, identifying peak months with 15% higher incidents for targeted interventions
- Incorporated **ANOVA and Pearson correlation** to uncover age-related trends, directly shaping policy development

RELEVANT PROJECTS

EdEquity (Machine Leaning Enginer | Full-Stack Developer)

- Developed an AI educational platform with **AWS Rekognition** and **Flask**, achieving **95% accuracy** in real-time drowsiness detection to dynamically optimize user focus and learning efficiency
- Integrated a **responsive chatbot** handling **200+ daily interactions**, boosting user engagement by over 30%
- Boosted user satisfaction by upgrading the platform with intelligent mapping and customized resource recommendations

BirderBase (Machine Leaning Enginer |Back-End Engineer)

- Formulated a bird-watching application leveraging **Azure Computer Vision** and **Node.JS** for accurate species identification
- Implemented **KNN clustering** to boost bird species exploration, resulting in a 50% increase in user interactions

Abortion Access - Judicial Bypasses (Full Stack Developer)

- Built interactive map of **30+ clinics** using **Leaflet.js, MapUtils, Firebase**; collaborated with 10+ legal/health experts
- Styled the application's front end using HTML, CSS, and Sass for an engaging user experience

PUBLICATIONS

2021: "Artificial Intelligence for the Diagnosis and Treatment of Diabetes Kidney Disease: A Systematic Review"

2021: " The Repercussion of SARS-CoV-2 on the Blood Glucose Level of Diabetes Patients' Prior & During the Lockdown in Bangladesh"

TECHNICAL SKILLS

Languages: JavaScript, Python, Java, HTML, CSS, C, C#, Bash, C++
Frameworks & Libraries: Node.js, React.js, OpenCV, Flask, Django, TensorFlow, MongoDB, PyTorch, Express.js, SQL
Software & Tools: Git, AWS, Azure, Postman/Insomnia, Jira/Agile, MacOS/Linux/Windows, MS Office

AWARDS & ACHIEVEMENTS

- **High School Valedictorian**; Achieved top ranking among 300+ students; [2022]
- **Top 5 in Bangladesh Chemistry Olympiad**; Ranked **5th nationwide** among **20,000 participants;** [2022]
- **National Camper** in Astronomy & Astrophysics and Earth Science Olympiads; Selected as one of the **top 20** participants among **4,000 students** for exclusive training camps in both disciplines; [2021-2022]