

SHAMS ABRAR

(267) 971-2071 | sa3868@drexel.edu | [linkedin.com/in/shams-abrar](https://www.linkedin.com/in/shams-abrar) | shams-abrar.dev

EDUCATION

Drexel University, Philadelphia, PA

Sept 2023 – Jun 2028

BSc: Computer Science | Minor: Mathematics | STARS Scholar | Dean's List | Drexel AI | Hack4Impact GPA: 3.85

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 personalized content.
- Analyzed transcripts from **50+ daily** YouTube videos using **LLAMA**, personalizing educational recommendation
- Converted **200+ PDFs into JSON**, generating over **1,000 learning flashcards** for effective learning
- 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 | Dr Fei Lu's Lab | Drexel University | Philadelphia, PA

- Upgraded** an outdated detection system with **TensorFlow Lite** on **Raspberry Pi**, improving aquatic fish recognition by 10%
- Revamped system 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

- Published** 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
- Pioneered 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

- 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 Learning Engineer | Full-Stack Developer)

- Designed an AI educational platform featuring **AWS Rekognition** and **OpenCV** for **real-time** drowsiness detection that enhanced user interaction rates
- Integrated a **responsive chatbot** handling **200+ daily interactions**, boosting user engagement by over 30%
- Enhanced the platform with **smart mapping** and personalized resource recommendations to improve user satisfaction

BirderBase (Machine Learning Engineer | Back-End Engineer)

- Formulated a bird-watching application integrating **Azure Computer Vision** and **Node.JS** for accurate species identification
- Integrated **KNN clustering** to enhance exploration, increasing user interactions by 50%

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.

TECHNICAL SKILLS

Programming Languages: JavaScript, Python, Java, HTML, CSS, C, C#, Bash

Frameworks & Libraries: Node.js, React.js, OpenCV, TensorFlow, PyTorch, Express.js, SQL

Software & Tools: Git, AWS, 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]

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 and During the Lockdown in Bangladesh"