Arnab Dev

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EDUCATION

The University of Texas at Dallas, Richardson, TX   August 2024 – Present
Bachelor of Science, Computer Science   **Graduation Year:** May 2027
- Honors College, Dean's List recipient, Full-Tuition AES scholarship recipient.   **GPA: 3.9**

TECHNICAL SKILLS

Programming Languages: Python, C/C++, JavaScript/TypeScript, Java
Frameworks/Tools: HTML, CSS (Tailwind, SCSS), React, Next.js, Node.js, Express.js, Git, Spring Boot, SQL (MySQL, PostgreSQL), NoSQL (MongoDB), AWS, Docker, Bash
Others: Canva, Figma, XML, MS

WORK EXPERIENCE

University of Texas at Dallas, Richardson, Texas   October 2024 – Present
Undergraduate Research Assistant, Undergraduate Research Apprenticeship Program
- Working on dynamic analysis and fuzzing at Dr. Shiyi Wei's lab.
- **Co-author of a paper** on dynamic analysis and fuzzing submitted at a tier 1 security conference.

Bondstein Technologies Limited, Dhaka, Bangladesh   June 2024 – August 2024
Software Developer Intern
- Worked on building and optimizing front-end interfaces. Used React, Next.JS, Node.JS, HTML, and CSS (Tailwind).
- Optimized front-end interface using memorization (React.memo) to reduce unnecessary re-renders, resulting in a 30% reduction in time taken to render components.

Edification Coaching Center, Dhaka, Bangladesh   October 2022 – December 2023
Computer Science Teaching Assistant
- Taught python fundamentals to students of class 9 to class 11 and GCSE O-level Computer Science (2210).

PROJECTS (10+ projects: https://arnabdev.netlify.app/projects)

Variability Aware Fuzzer (Research)   October 2024-June 2025
Tools Used: C/C++, Docker, Bash, Python
- VAFuzz is a novel variability-aware fuzzer that integrates principled dynamic variability-aware analysis within the fuzzing process to enhance configuration space exploration.
- Our evaluation on a diverse set of programs show that VAFuzz outperforms the state-of-the-art configuration fuzzers on 21 out of 25 programs in terms of code coverage. It also detects more vulnerabilities than these baselines, including previously unknown bugs.

HydraWatch (Hack UTD) (https://devpost.com/software/lorem-ipsum-zxuv8p**)**   November 2024
Tools Used: Flask, Next.js, Python
- App that can visualize pipeline data through an interactive dashboard to help lease operators make informed decisions. Key features: detection and prediction of hydrate formation based on current gas injection metrics.

Kormi App (https://kormi.netlify.app/**)**   August 2024-Present
Tools Used: MERN Stack(React, Node.js, MongoDB)
- Full stack project where domestic workers can be hired.

ORGANIZATIONS

AIMD UTD, Developer   October 2024 – December 2024
Next Initiative Foundation, Founder, President, Web Developer   August 2020 – August 2024
- Recruited and led 300+ volunteers; chief organizer at multiple fundraising youth events of 4000+ participants. Our work has been featured on national TV channels.

ESS STEM Club, President   October 2021 – January 2024
- Leader during growth from 50 members to 200+ members, making it the school's largest academic club. Chief organizer of intra-school events.
- Prepared question sets on mathematics, physics, chemistry, ICT, programming, and astrophysics for olympiads.

ACHIEVEMENTS

Top 25 across the Nation, Bangladesh Olympiad in Informatics   February 2024, February 2023