

Arpan Das

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EDUCATION

George Mason University

Fairfax, Virginia

B.S. in Computer Science

Expected Graduation, May 2026

- **GPA:** 3.80/4.00, *Dean's List*
- **Related Coursework:** Computer Systems and Programming, Formal Methods & Models, Data Structures & Algorithms, Intro to Low Level Programming, Linear Algebra, Object-Oriented Programming, Probability & Statistics for Engineers/Scientists, Discrete Math

EXPERIENCE

QinetiQ US

Reston, Virginia

Software Engineer Intern

Jun 2024 – Aug 2024

- Develop a centralized search engine for vulnerability detection, with a ReactJS frontend and NodeJS backend, collecting data on software bugs and threats compiled from APIs such as Stack Exchange, and NIST.
- Utilize and manage AWS EC2 servers, MySQL (AWS RDS), and S3 buckets to host web-application on the cloud with a centralized database, static file storage, dynamic servers, and REST APIs to fetch 40,000 queries per day.
- Utilizing PyTorch, BERT, and Flask; fine-tune and deploy a large-language model to perform sentiment analysis on data thus improving semantic searching capabilities and vulnerability tracking within our website by 14 percent.
- Engage in 4 rapid-development sprint life cycles as part of a 5-member scrum process contributing to design, development, testing, deployment, and documentation.

Iridium Communications

Leesburg, Virginia

Hardware Extern

May 2023 – Jun 2023

- Created Python scripts to generate visualizations of satellite telemetry.
- Trained in Attitude Determination and Control Subsystems (ADCS) principles for Iridium NEXT9 launch.
- Utilized Microsoft Excel to keep an inventory of available hardware systems within server rooms.

Mason Experimental Geometry Lab

Fairfax, Virginia

Research Intern

Jan 2024 – Present

- Utilize Python libraries like Geometry-Tools and NumPy to generate visualizations of semi-homogenous trees embedded in the Hyperbolic Poincare disk.
- Develop mathematical formulas to optimally embed semi-homogenous trees within the Hyperbolic disk.

ACTIVITIES AND LEADERSHIP

Virginia Space Grant Consortium

NASA Langley Research Center, Virginia

Virginia Aerospace Science and Technology Scholars – Cybersecurity Specialist

Nov 2021 – Jul 2022

- Developed APA style technical reports of space accident case studies, hypothetical moon mission and Mars mission.
- Developed a budget, cybersecurity measures, crew lists, and risk-management strategies alongside a team of 15 for a hypothetical manned mission to Mars during a summer academy at the NASA Langley Research Center.

The Coding School

Online

Qubit by Qubit (QxQ)

Nov 2020 – May 2021

- Developed a final project using IBM's quantum computing language and platform Qiskit and Python.
- Learned about Quantum Physics and the fundamentals of Quantum Computing.

PROJECTS

For You

Ashburn, Virginia

Technical Lead/CTO

Mar 2024 – Present

- Developing a dating app for George Mason University students similar to Tinder.
- Full-Stack app development using React Native for frontend UI and AWS Amplify for user authentication, real-time databases, and backend.

StrumAlign

Ashburn, Virginia

Personal Project

Aug 2024 – Present

- Developing an app to aid beginner musicians hone their technique for their respective instrument by utilizing computer vision and machine learning to provide real-time feedback.
- Utilizing ReactJS for user interface, Google Firebase for authentication, OpenCV, Mediapipe, and YOLOv8 for object detection and hand tracking, and Flask for integration of computer vision and machine learning models with application.

SKILLS

Programming: Python, Java, JavaScript, TypeScript, HTML/CSS, C/C++

Tools: ArcGIS Pro, Docker, Kubernetes, ReactJS, Node.js, Express.js, Next.js, Mongoose, MongoDB, Amazon Web Services (AWS), MySQL, PyTorch, Flask, Natural Language Processing, OpenCV, Mediapipe, YOLOv8, REST APIs, Google Firebase

Workflow: Scrum, Agile, Full-Stack Software Development, Software Development Life Cycle (SDLC)