Arnav Pal

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EDUCATION

University of Maryland, College Park, MD   Graduation date: May 2025

College of Computer, Mathematical and Natural Sciences || Robert H. Smith School of Business

Major: Bachelor of Science, Computer Science   Minor: General Business

TECHNICAL SKILLS

- **Programming Languages:** Java, JavaScript, Python, C, HTML, R, Ruby, OCaml, Node.Js, CSS, SQL, Kotlin, Swift
- **Frameworks:** Django, Flask, Springboot, Express.js, React,
- **Tools & Software:** MATLAB, MS Office, Git, Docker, Jupyter Notebook, Photoshop, Illustrator

CERTIFICATIONS

- **Amazon Web Services Certified Solution Architect - Associate**
- **Amazon Web Services Certified Developer - Associate**

Key Skills: Designing scalable and secure cloud solutions, optimizing application performance, implementing CI/CD pipelines, and leveraging AWS services for serverless applications.

EXPERIENCE & PROJECTS

Elaunchers | *Front-End Developer Intern*   **June 2022 – July 2023**

- Redesigned and enhanced client websites using HTML, CSS, and JavaScript, improving user interface and overall site responsiveness.
- Collaborated with design teams to implement visually appealing and user-friendly layouts, ensuring consistent branding and accessibility across multiple devices.
- Conducted front-end testing with Jasmine/Karma, identifying and resolving issues to enhance the functionality and performance of web pages.
- Designed Excel Profit and Loss spreadsheets to manage and update the company's financial transactions

Predictive Stock Price Analysis of FAANG Companies | *Python, HTML*

- Developed a predictive model using Python and machine learning (Linear Regression) to forecast stock values and fiscal annual revenue for Meta, Amazon, Netflix, Apple, and Google from 2013 to 2024, achieving high accuracy as measured by MSE and R-squared scores
- Conducted extensive data analysis by collecting, cleaning, and visualizing historical financial data, utilizing tools like Pandas, NumPy, Matplotlib, and BeautifulSoup to uncover trends and growth patterns
- Provided actionable insights for investors and stakeholders through clear visualizations and comprehensive analysis, enabling informed decision-making based on predicted financial performance
- Hosted the results on Git Pages.

Breaking Bad Quote Guessing Game | *Python, Flask, MongoDB, HTML, Javascript, AJAX, RESTful API, CSS, Amazon RDS, EC2*

- Created a dynamic "Breaking Bad" themed game where users guess the author of a randomly generated quote, with interactive features such as word blanking and user input validation with a custom-designed interface.
- Utilized AJAX with Axios to handle asynchronous requests, ensuring a seamless user experience.
- Employed a login system to allow for users to store their scores, storing credentials in MongoDB.
- Set up a three tier architecture including Route 53 for DNS routing, an Elastic Load Balancer for traffic distribution across multiple availability zones, and an Auto Scaling group for dynamic traffic allocation.
- Integrated ElastiCache for session management and caching, and Amazon RDS for reliable data storage and retrieval within a secure, multi-tiered network.

Weather Web Application | *JavaScript, CSS, HTML, MongoDB, RESTful API, AWS S3*

- Implemented user authentication, real-time weather updates, and data retrieval based on city input using Express, MongoDB, and EJS templating
- Utilized body-parser middleware for form handling, configured environment variables with dotenv, and deployed with configurable port settings as well as hosting a static website through an Amazon S3 bucket.
- Integrated MongoDB Atlas for scalable cloud database management, ensuring efficient data storage and retrieval for login credentials and weather data

Code Ninjas | *Volunteer, Germantown*

- Guided students through various coding projects, leveraging my programming knowledge to facilitate their understanding of software development principles.
- Applied technical problem-solving skills to help students troubleshoot and debug their code, enhancing their grasp of programming concepts.
- Developed strong communication skills by translating complex technical ideas into clear, actionable instructions.
- Created a positive and engaging learning environment, fostering students' interest in technology and coding through effective mentorship.

Portfolio Website | *HTML, Javascript, CSS*

- Designed and developed a responsive personal portfolio website using HTML, CSS, and JavaScript.
- Implemented smooth scrolling navigation and responsive design for cross-device compatibility.
- Showcased key projects with detailed descriptions, images, and links to GitHub repositories.
- Integrated external links to LinkedIn and GitHub profiles using Font Awesome icons and ensured accessibility.
- Hosted the website on GitHub Pages, enabling easy access and sharing of the portfolio.

AWS APAC Solutions Architecture virtual experience program on Forage | *AWS Services*

- Designed a simple and scalable hosting architecture based on Elastic Beanstalk for a client experiencing significant growth and slow response times.
- Described my proposed architecture in plain language ensuring my client understood how it works and how costs will be calculated for it.

UMD Smith Undergraduate Student Association, Bitcamp Hackathon, ACM-ICPC, FRC, UNICEF, Google Code Jam, HackForImpact