Arnav Aggarwal

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Education

University of Waterloo, *Waterloo, ON, Canada*   **Sep 2020 - Apr 2025**
Bachelor of Computer Science (Artificial Intelligence) (Co -op)
- Awards: University of Waterloo President's Scholarship of Distinction Recipient, 5 times Term Distinction.
- Clubs: UW Wat Street, UW Computer Science, UW Data Science Club.
- Coursework: Data Structures, Algorithms, Operation Systems, Object Oriented Design, Distributed Systems, Mathematics, ML.
- 3+ years of experience in software development life cycle, coding standards, reviews, testing, SOLID Principles and DevOps.

Certifications:
- Applied Software Engineering Fundamentals – IBM | AWS Certified Cloud Practitioner - Amazon | Back-End Developer - Meta

Professional Experience

Software Engineering Intern | *KPMG, Toronto, ON*   **Sep 2023 - May 2024**
- Collaborated with **fast paced** teams to define, design, and ship new features, following Agile methodologies and ensuring timely delivery of high-quality full stack applications written in **JavaScript, VueJs, NodeJs, AngularJs**.
- Implemented **advanced algorithms** and **multithreading** techniques in the distributed application back-end in **C#**, reducing tax form generation time **from 360 to 2 minutes**, resulting in a 56% decrease in subscription costs.
- Streamlined the deployment process by integrating Docker containers into the CI/CD pipelines, reducing deployment time by 60% and ensuring consistent environments across all development stages.
- Built 10+ tools into the Web app using **HTML, NodeJS, C# and SQL** resulting in a 30% increase in user capabilities.
- Constructed unit tests and integration tests using **JUnit and Selenium**, increasing code coverage and reliability by 20%.

Data Scientist | *Jana Corporation, Aurora, ON*   **Sep 2022 - Dec 2022**
- Designed **ETL** procedures (SQL) to integrate **Data Vault 2.0** Methodology resulting in a 30% reduction in data processing time.
- Refactored over 15 risk models in legacy **Python** code, incorporating **SOLID** Principles, leading to a 31% decrease in runtime.
- Identified cost-saving opportunities through data analysis, resulting in a 27% reduction in operational expenses.

Software Developer Intern | *Cineplex, Toronto, ON*   **Jan 2022 - May 2022**
- Boosted annual revenue by $5 M by deploying new Media Advertisement strategies and **APIs** developed **in C# MVC Model**.
- Accelerated a C++**,** SQL based Machine learning **Forecasting Model** and achieved a 40 percent surge in advertisement revenue.
- Formulated a RESTful API on **ASP.net** (OpenAPI Standards) to perform CRUD operations from on-premises database 30% faster.
- Introduced Modernization using **Azure** to incorporate safer practices and reduce API latency by over 25 percent.

ML Developer (WE Accelerate) | *Microsoft, Toronto, ON*   **May 2021 - Aug 2021**
- Programmed a **ML pipeline** in **C++, Python** to identify toxic comments on Toronto Star's posts with over **91 percent accuracy** and gain insights of reader opinions on articles, leading to a **15% increase** in engagement.
- Demonstrated commitment to professional development by completing **two prestigious certifications:** AZ-900 and AI-900.

Skills

Programming: C, C++, Python, TypeScript, JavaScript, SQL, HTML, CSS, Java, MongoDB, React, Django, Kotlin, Ruby
Cloud technology: AWS (S3, DynamoDB, Lambda, RDS, SQS), Azure, Google Cloud
Tools/Experience: R, Git, GitHub, Big Query, Postman, JIRA, Latex, DevOps, Agile Methodology, Angular

Projects

UWFLOW + | *Node.js, JavaScript, React.js, MongoDB, Docker, AWS*
- Developing a web app that automates the **course planning process** for 10000+ students based on their courses and difficulty.
- Architecting highly available and fault-tolerant systems, utilizing **cloud services** to ensuring scalability and **99.99% uptime**.

Sudoku Solver | *Python(Numpy, Pandas)*
- Demonstrated the concepts of backtracking, forward-checking, and heuristics in AI by creating a functioning Sudoku Solver.
- Can solve any Evil difficulty sudoku within 150-200 moves using heuristics compared to 1,50,000+ moves using backtracking.

POKER GAME | *C++*
- Used **OOPS** features such as classes, inheritance, polymorphism, and encapsulation to ensure a modular and scalable design.
- Accomplished proficiency in C++ programming, software design, and problem solving skills through successful completion.