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Deepan Chakravarthy

[\[GitHub\]](#) - [\[LinkedIn\]](#) - [\[Portfolio\]](#)

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EDUCATION

Vancouver, BC	University of British Columbia	Expected May, 2024
• Major: Computer Engineering, BASc (GPA: 82%)		
• Programming Coursework: Algorithms & Data Structures, Operating Systems, Networks, Computer Vision		
• Hardware Coursework: Digital System Design, Microcomputers, Embedded Systems, Assembly, Circuits		

TECHNICAL SKILLS

- **Languages:** C#, C/C++, Java, Python, Verilog, ARM/x86 Assembly, HTML/CSS/JavaScript
- **Frameworks:** .NET 5, ASP.NET Core, MVC, SQL Server, Entity, MongoDB, TensorFlow, Pytorch, React
- **Technologies:** GIT, Unix, Docker, Kubernetes, Azure Cloud, AWS EC2, Postman, xUnit, Jenkins

TECHNICAL EXPERIENCE

Image Recognition Team	AgroBot UBC	August 2021 - Present
• Performed Transfer learning to develop a wheat detection and classification model with 87% validation accuracy and 0.2 validation loss		
• Integrated the ML model onto an Edge device to increase real-time inference speed by up to 80%		
• Utilized: <u>TensorFlow</u> , <u>Coral Edge TPU</u> , <u>Python</u> , <u>OpenCV</u> , <u>GIT</u> , <u>Google Cloud</u>		

PROJECTS

UNIX commands REST API (Back-End)	February 2022 – March 2022
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Personal Project [\[GitHub\]](#) – [\[DockerHub\]](#)

- Built a **REST API** that stores Unix commands and their descriptions
- Used MongoDB, DTOs, and **Asynchronous programming** (Async all the way) for efficient data access
- Used **dependency injection** and inversion of control principles to encapsulate data access and decouple controller from dependencies
- Followed the **Test Driven Development** (TDD) approach and performed unit testing and regression testing using xUnit and Postman to validate code
- Deployed using **Docker** and used **Kubernetes** to implement scaling of pods, self-healing, health probing and load balancing
- Utilized: C#, .NET 5, Async/await, RESTful APIs, Docker, Kubernetes, MongoDB, Postman, xUnit

Online Car Marketplace (Full-Stack)	January 2022 – February 2022
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Personal Project [\[GitHub\]](#) – [\[Website\]](#)

- Built an **ASP.NET Core MVC** Web Application for users to advertise used cars
- Used **Entity Framework ORM** (DbContext), Migrations, SQL Server for data storage and persistence
- Created entire frontend UI using HTML/JavaScript and Bootstrap CSS templates
- Implemented **CRUD** operations, added REST API endpoints using AutoMapper to improve performance
- Added **Authentication & Authorization** (login system) and performed Client & Server-side Data Validation for security; Deployed SQL database and application to **Azure Cloud** to enable remote access
- Utilized: C#, ASP.NET Core, MVC, SQL, Entity, Azure, HTML/JavaScript

CI/CD Jenkins Pipeline	January 2022 – February 2022
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Personal Project [\[GitHub\]](#) – [\[Website\]](#)

- Implemented CI/CD pipeline on an **AWS EC2 Jenkins** instance to automate building, testing and deployment
- Automated static code quality checking using SonarQube and added deployment to a Nexus repo for releases
- Utilized: AWS EC2, Jenkins, Maven, SonarQube, Nexus

Crypto Currency Tracker (Front-End)	December 2021 – January 2022
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Personal Project [\[GitHub\]](#) – [\[Website\]](#)

- Created and deployed website that tracks Cryptocurrency market trends with the Coin Gecko API using **React**
- Utilized: ReactJS, CSS, Hooks (State/Effect), JavaScript, Azure Cloud

AWARDS & AFFILIATIONS

- Deans Honor List (2019, 2020), UBC BOLT data analytics club, UBC Game development club