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# Deepan Chakravarthy

[[GitHub](#)] – [[LinkedIn](#)] – [[Portfolio Website](#)]

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## EDUCATION

<b>Vancouver, BC</b>	<b>University of British Columbia</b>	<b>Expected May, 2024</b>
<ul style="list-style-type: none"><li>• <b>Major:</b> Computer Engineering, BASc (GPA: 82%)</li><li>• <b>Programming Coursework:</b> Algorithms &amp; Data Structures, Operating Systems, Networks, Computer Vision</li><li>• <b>Hardware Coursework:</b> Digital System Design, Microcomputers, Embedded Systems, Assembly, Circuits</li></ul>		

## TECHNICAL SKILLS

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

## TECHNICAL EXPERIENCE

<b>Image Recognition Team</b>	<b>AgroBot UBC</b>	<b>August 2021 - Present</b>
<ul style="list-style-type: none"><li>• Performed <b>Transfer learning</b> to develop a wheat detection and classification model with 87% validation accuracy and 0.2 validation loss</li><li>• Integrated the ML model onto an <b>Edge device</b> to increase real-time inference speed by up to 80%</li><li>• Utilized: <a href="#">TensorFlow</a>, <a href="#">Coral Edge TPU</a>, <a href="#">Python</a>, <a href="#">OpenCV</a>, <a href="#">GIT</a>, <a href="#">Google Cloud</a></li></ul>		

## PROJECTS

<b>UNIX commands REST API (Back-End)</b>	<b>February 2022 – March 2022</b>
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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](#)

<b>Online Car Marketplace (Full-Stack)</b>	<b>January 2022 – February 2022</b>
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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](#)

<b>Crypto Currency Tracker (Front-End)</b>	<b>December 2021-January 2021</b>
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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](#)

<b>OS161 (Linux clone), Kernel Development</b>	<b>September 2021-December 2021</b>
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Coursework: Semester long project

- Implemented crucial parts of the **kernel infrastructure** such as synchronization primitives, processes and file tables, system calls and virtual memory. Utilized: [C](#), [cscope](#), [gdb](#), [Virtual machine](#)

## AWARDS & AFFILIATIONS

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