

Vidun Shanuka Upek

Computer Science Undergraduate | Full Stack & Machine Learning Developer

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About Me

Computer Science undergraduate at the University of Westminster with hands on experience in machine learning, DevOps practices and modern software development. Skilled in building scalable backend systems, automating development workflows and creating intelligent applications that address real world challenges. Particularly interested in backend engineering, cloud native architectures and applied machine learning.

Teck Stack/ Skills/ Tools

- **Programming Languages** : Java, Python, JavaScript, Typescript, PHP
- **Frontend & Backend Frameworks** : React, Node.js, Express.js, ASP.NET, Tailwind CSS
- **Database & Querying** : MySQL, Redis, MongoDB
- **Cloud, Devops & Tools** : AWS, Docker, Kubernetes, Github Workflows (CI/CD), Postman
- **Machine Learning & Data Science:**
 - Numpy, Pandas, Matplotlib, Seaborn, Plotly , Scikit Learn, PyCaret
 - Hands on Experience with Regression & Classification models.

Education

- **BSc (Hons) Computer Science** | University of Westminster | Affiliated by IIT | 2 Year Student 2024 - 2028
- **Java Application Development using JavaSE** | University of Colombo 2024
- **GCE A/L | Ananda College -Colombo** | Physical Stream 2023
Physics – B | Combined Mathematics - C | Chemistry - C
- **GCE O/L | Vidura College -Colombo** | 9 A's | Business Studies | English Literature | ICT 2021

Projects / Experience

- **CrackCode – Gamified Narrative Driven Educational Web Application** 2025 Nov-2026 March
 - Technical Lead of the project.
 - Worked on Frontend, Backend, building AI Agent and Database Integration.
 - Authored Documentation and Design. (UML Diagrams, System architecture, Class Diagrams)
 - Integrated a cloud based code editing environment with real time session management.
 - Integrated narration based code review AI Agent, Interactive mini game, Narration converter pipeline.
 - Integrated CI/CD pipeline with Docker and deployed the application via DigitalOcean.
 - Technologies: MongoDB, Redis, Express.js, React, Node.js, Tailwind CSS, Docker**
- **DockLens – Dockerfile Analysis CLI Tool** 2026 March – Present
 - Developed a Node.js CLI npm package that analyses Docker files to identify built inefficiencies and security risks.
 - Implemented rule based checks for issues such as unpinned base images, poor layer caching and root execution.
 - Next step is to enabled CI/CD integration for automated Docker file quality validation in container build pipelines.
 - Technologies : Node.js, Typescript, CLI Development, Docker, Static Analysis, CI/CD integration.**
- **Hotelify – Hotel Booking Platform** 2026 Jan-2026 March
 - Developed a scalable full stack hotel reservation web application using MERN stack.
 - Implement real time room search, availability checks and multi criteria filtering.
 - Secure Authentication and Role management using Clerk.
 - Integrated Stripe payments with web hook verification for secure transactions.
 - Built admin dashboards for hotel owners to manage rooms, bookings and revenue analytics.
 - Technologies: MongoDB, Express.js, React, Node.js, Tailwind CSS, Clerk, Stripe**

- **DementialInsight – Non Medical Dementia Risk Classifier** 2025 Dec
 - Developed an automated machine learning pipeline to predict dementia risk using non medical features.
 - Implemented data processing, model training, evaluation and analysis.
 - Build command line prediction tool for real time interface using the trained model.
 - Achieved strong Classification Performance with LightGBM model for dementia risk prediction.
 - Presented the project & became Finalist in ModelX Inter-University Hackathon.

Technologies: Python, Pandas, Numpy, Matplotlib, Seaborn, Pickle , Scikit Learn, LightGBM Model
- **MedPredict – Medical Cost Prediction Model** 2025 Nov
 - Developed a machine learning model to predict medical insurance cost using selected health indicators.
 - Implemented a Random Forest Regressor to model nonlinear relationship between lifestyle and demographic factors.
 - Deployed the model using streamlit creating a lightweight interactive interface via browser.

Technologies: Python, Pandas, Numpy, Matplotlib, Seaborn, Scikit Learn , Random Forest Regressor Model

Leadership , Teamwork & Achievements

- Technical Lead and Founder of Project CrackCode (Gamified Educational Platform)
- Team Leader | ModelX InterUniversity hackathon | Finalist
- Team Leader | IEEE Global hackathon | rank 1887 out of 8000 + teams globally
- Vice Captain/ Open batsman/ wicket keeper of School cricket Team
- Cricket captain of H&M Cricket sports Club

Awards

- Award Winner at Annual School Sports Award Ceremony -Colour's Night Event (2016,2017,2018)
- All Island certificate Holder in Cricket (SLSCA Tournaments) | Best Batsman Awards | Best All Rounder Awards
- Award Winner & Bronze Medallist at Annual School Art competitions (2013,2014,2016,2017)

❖ IEEE Member

❖ **Languages** : English (Fluent) & Sinhala (Native)

Certifications

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| • Backend Development with ASP.NET (Microsoft) – Coursera | 2026 March - present |
| • Java Spring Boot (EDUCBA) – Coursera | 2026 Feb - present |
| • AWS (Cloud Technical Essentials) – Coursera | 2026 - Feb |
| • Introduction to container, Docker, Kubernetes and OpenShift (IBM) – Coursera | 2026 – Jan |
| • Introduction to DevOps (IBM) – Coursera | 2025 - Dec |
| • RESTful API Backend Application development – Coursera | 2025 - Oct |
| • Linear Algebra for Machine Learning & Data science (DeepLearning.AI)- Coursera | 2025 - Oct |

Modules Followed

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| • Software Development I/II (Python, Java) | • Object Oriented Programming | • Server Side Development |
| • Computer System Fundamentals | • Database Management & Design | • Client-Server Architecture |
| • Mathematics for Computing | • Web Design & Development | • Machine Learning |

References

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