

# Yash Singh Pathania Student At UCD

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## Profile

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I've spent the last two years diving into software engineering, picking up skills through hands-on projects and freelance gigs. Coding's become my way of turning ideas into reality, one line at a time!

## Professional Experience

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**Tata 1mg, Software Development Engineer**  Jul 2022 – Jul 2024 | Delhi, India

### **ODIN (India's Largest Medicine Warehouse Management System)**

- Spearheaded the upgrade of Ruby (2.6 to 3.2) and Rails (5 to 7), integrating the YJIT compiler, significantly improving system performance and efficiency.
- Developed dynamic pricing models using machine learning techniques (XGBoost, deep reinforcement learning), optimizing inventory management and automating procurement processes.
- Decoupled microservices from the legacy ROR monolith to Sanic Python, improving scalability, modularity, and performance across the system.
- Integrated Tortoise ORM into Toreped, an in-house framework built on Sanic Python, enhancing database management and system operations.
- Developed and launched Locus, an in-house rider app, implementing geo-fencing and route planning using OpenStreet for optimized delivery logistics.
- Led the creation of an extensive unit test suite, achieving 70% code coverage on a 7k+ line codebase, improving code reliability and maintainability.
- Enabled automation of warehouse management, processing 100,000 orders per day while ensuring compliance for over 1,000 batches, significantly enhancing operational efficiency.

**Tata 1mg, Software Developer Intern** Jan 2022 – Jun 2022

Worked on ROR Framework and YJIT Compiler. Recived an A+ for industry internship.

**Saansha Artworks, Technical Head** Nov 2020 – Jun 2021 | Delhi

*Startup specializing in online stationery retail*

- Achieved Amazon Best Seller status for 2021 planners.
- Developed in-house website using FastAPI, integrating Razorpay for secure payment processing and building a fully functional cart system.
- Led full-stack web development, utilizing FastAPI, HTML/CSS, and JavaScript, ensuring platform security and seamless user experience.
- Integrated APIs and payment gateways to provide a robust and scalable e-commerce platform.

**Sketch Bytes, Software Developer Internship** Apr 2020 – Apr 2021 | Port Blair

- Module Development & Enhancement
  - Successfully debugged and engineered two pivotal modules user history and wrapper for kafka, elevating system performance.
- Significant Healthcare Impact
  - Directly influenced care at 7 hospitals, positively impacting over 7,000 COVID patients.
- Network Fabrication & Integration
  - Crafted robust inter-hospital networks using Django and Python, ensuring efficient communication and data exchange.

**Olive Green Immigration, Web Developer Freelancing**  Jun 2020 – Aug 2020

- Established a front end for the company.
- Created a data entry system as required by the client.
- Set up automatic emails and custom email servers.
- Designed various email headers and designs using HTML& CSS.

## Education

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### University College Dublin, Msc Computer Science Artificial Intelligence

Sep 2024 – Sep 2025 | Dublin, Ireland

MSc in Computer Science Negotiated Learning with an Emphasis on Artificial Intelligence and Data Science

### Thapar Institute of Technology, BE Computer Science with Minors in Data Science

2018 – 2022 | India

Computer Science, B.E. 4th year GPA: 3.2

## Skills

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**Python** (Sanic,Django), **Web Dev** (React), **C++**, **Machine Learning**, **Postgres**, **Ruby On Rails**, **Kubernetes**, **AWS** (SQS, Kafka, EC2, S2), **Redis**, **MongoDb**, **Rspec**, **Docker**, **Podman**, **PyTorch**, **Tensorflow**

## Projects

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### Detecting Emotions of Tweets Using Machine Learning and Deep Learning Technique, Research Paper

Analyzed the SemEval Data Set for vernaculars and emoticons.

Explored BERT and convolutional neural networks for advanced text analysis.

Published findings in the Tech Science Journal, setting new benchmarks for model comparison.

### Simple Stock, Machine learning

Developed a machine learning model for stock price forecasting.

Integrated LSTM with sentiment analysis for enhanced accuracy.

Utilized BERT for NLP, analyzing sentiments from news and forums.

Achieved a 4.5-6% accuracy improvement for traditional stock predictions.

### Tech Stack Upgrade

Directed a comprehensive tech stack overhaul at Tata 1mg, spearheading the upgrade of Ruby from 2.6 to 3.2 (YJIT) and Rails from version 5 to 7. This initiative also encompassed migrating PostgreSQL databases to AWS Graviton instances, along with upgrading PostgreSQL from version 12 to 14.

### Testing Suite

Developed foundational quotes and unit testing strategies for ODIN, a legacy Ruby on Rails application, utilizing RSpec and Should Matchers. Successfully increased code coverage to 80% for a codebase exceeding 35,000 lines.

### Auto Purchasing For Warehouses

Designed an automated procurement system for location-specific pharmaceutical demands.

Integrated Prophet by Meta with proprietary forecasting algorithms.

Streamlined procurement, optimizing inventory levels, and reducing stock shortages.

### Hawkeye, AI-Powered Surveillance for Retail Optimization

Hawkeye is an ongoing SaaS project currently in development, focused on building modular solutions for various brick-and-mortar establishments. Leveraging YOLOv7 for real-time object detection, Hawkeye aims to provide actionable insights for industries such as retail, healthcare, and other physical institutions through advanced video analytics.

## Certificates

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**Infosys Certified Software Programmer:**  Certification Around basic Principles in Software Development |

**Top 100 in codechef smackdown** | **AI Certification from University Of Helsinki** 

## Organizations

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**Aisec, Business Executive**

Jan 2020 – Jul 2021 | Patiala

## Hobbies

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**Basketball, Debating, Certified Scuba Instructor, Cooking**  —