

# Shubham Machal

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## EDUCATION

### Santa Clara University

Master of Science in Computer Science

Santa Clara, CA

Sep 2023 – March 2025

### NIT Hamirpur

Dual Degree in Computer Science (B.Tech. + M.Tech.)

Hamirpur, India

Aug 2014 – May 2019

## WORK EXPERIENCE

### Data Science Intern

June 2024 – Sep 2024

Crossvalidation.AI

Menlo Park, CA

- Analyzed large, complex financial datasets to uncover trends and patterns, utilizing analytical tools and techniques to interpret data and provide recommendations
- Applied machine learning algorithms, such as Random Forest and Regression to predict stock prices.
- Fine-tuned and optimized LLAMA3 and GPT-3.5 models for accurate stock price predictions.

### Software Engineer

July 2019 – March 2023

Capgemini Technologies

Bengaluru, India

- Led initiatives to enhance cloud security and optimize infrastructure across AWS and Azure platforms.
- Configured and improved the existing infrastructure of Azure Firewall, Application Gateway, Key Vault, and Microsoft Defender for Cloud Apps, reducing security incidents by 50% for Asahi Beverages.
- Deployed and managed cloud infrastructure on AWS and Azure using Terraform, ensuring scalable and automated provisioning of resources.
- Created and optimized virtual networks, subnets, IP addresses, and network interfaces, resulting in a significant improvement in both private and public network route optimization.
- Implemented Trend Micro Deep Security and managed AWS resources (S3, Lambda, CloudWatch, IAM, Amazon Inspector) to enhance server protection and ensure optimal cloud operations.

### Software Development Intern

May 2017 – July 2017

NIT Hamirpur

Hamirpur, India

- Successfully deployed an open-source web-based Elective Allotment System, optimizing course allocation and reducing administrative workload by 80%.
- Developed the system using PHP, MySQL, and JavaScript, integrating user authentication, robust database management, and an efficient course allocation algorithm based on student preferences and CGPA.
- Followed Agile methodology, enabling iterative development cycles and ensuring continuous improvement throughout the project.

## PROJECTS

### Financial Modeling Automation | Python, Flask, Machine Learning, PostgreSQL

April 2024 – June 2024

- Built a Flask API for financial data retrieval and storage, triggering machine learning model training.
- Achieved a model accuracy of 0.72 and test accuracy of 0.68, significantly improving stock prediction efficiency.

### Object Detection with YOLO | Deep Learning, Python, YOLO, Transfer Learning

Jan 2024 – March 2024

- Exploration of one-shot detector object detection algorithms - YOLO and SSD, to enhance visual understanding and automate detection applications across domains.
- By comparing YOLOv6, YOLOv7, and YOLOv8 using the COCO and ImageNet dataset, the project work evaluates their efficiency and accuracy through experiments, leveraging transfer learning techniques.

### SnapAll | Javascript, NodeJS, HTML, CSS, Apache2

Jan 2019 – March 2019

- Developed a student activity monitoring system allowing Admins to capture screenshots of students' workstations with a click and review them directly on the computer resulted in increased productivity by almost 50%.
- Used socket programming and Socket.IO, a JavaScript library.

## TECHNICAL SKILLS

**Programming Languages:** Python, R, C++, HTML/CSS, Javascript

**Cloud:** AWS (S3, Lambda, EC2, RDS), GCP, Microsoft Azure

**Development Tools:** Git, Docker, Kubernetes, Jenkins, Terraform, Ansible, Unix/Linux

**Machine Learning & Data Science :** Sklearn, TensorFlow, PyTorch, Numpy, Pandas, Keras

**Databases :** MySQL, PostgreSQL, MongoDB, Redis, Oracle, Snowflake