

# Vishesh Choudhary

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## SUMMARY

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Results-driven Machine Learning Engineer with Inhand experience in leveraging machine learning algorithms, deep learning, and computer vision to tackle complex manufacturing challenges. Proficient in Python, TensorFlow, PyTorch, and OpenCV. Adept at processing large datasets, building and evaluating ML models, and deploying them in production environments. Seeking to contribute to Apple's Manufacturing and Operations team by applying cutting-edge AI solutions to enhance product manufacturing processes.

## EDUCATION

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<b>Vellore Institute of Technology</b> <i>Integrated MTech in Computer Science and Engineering</i>	Vellore, Tamil Nadu July 2020 – August 2025
<b>Institute for Excellence in Higher Education</b> <i>B.Sc (Honours) Computer Science 1st Year</i>	Bhopal, Madhya Pradesh July 2019 – June 2020
<b>Sagar Public School</b> <i>Physics, Chemistry, Maths and Informatics Practices</i>	Bhopal, Madhya Pradesh July 2017 – January 2019

## TECHNICAL SKILLS

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**Programming Languages:** Rust, Go, Python, C++, C, Java, SQL, Shell, Native Android, Flutter, React Native, Three.js

**Machine Learning Libraries & Tools:** TensorFlow, PyTorch, Scikit-learn, OpenCV, NumPy, Pandas

**Data Processing & Visualization:** Big Data Handling, Data Quality Inspection, Data Preprocessing

**Deployment & Cloud Services:** Docker, Kubernetes, AWS, Terraform

## EXPERIENCE

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<b>Machine Learning Engineer</b> <i>Tune AI</i>	June 2023 – Feb 2024 San Francisco, CA
<ul style="list-style-type: none"><li>Implemented and automated ML pipelines for training, validation, and deployment</li><li>Collaborated with cross-functional teams to integrate ML solutions</li><li>Collaborated with cross-functional teams to integrate ML solutions into production systems</li><li>Presented model performance and results to stakeholders, including executives</li></ul>	
<b>GoLang Backend Developer and UI/UX Engineer</b> <i>Economize.cloud</i>	Mar 2022 – Dec 2022 Covina, CA
<ul style="list-style-type: none"><li>Designed and implemented user interfaces for data-driven applications, enhancing user experience and functionality</li><li>Integrated Google Cloud Platform and SendGrid API using Go to streamline backend operations and communication</li><li>Collaborated with design and development teams to deliver intuitive and impactful user experiences</li></ul>	

## PROJECTS

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<b>DDoS Attack Mitigation Using SDN and MLP</b> <i>Network Security</i>	Sept 2021 – December 2021 <i>Python, TensorFlow, Rust, SDN Frameworks</i>
<ul style="list-style-type: none"><li>Designed a solution integrating Software Defined Networking (SDN) with a Multi-Layer Perceptron (MLP) neural network to identify and mitigate DDoS attacks</li><li>Developed MLP models to recognize attack patterns and predict potential threats</li><li>Leveraged SDN to dynamically adjust network traffic and configuration based on MLP predictions, improving network resilience</li><li>Implemented real-time monitoring and automated response systems to effectively counteract attack attempts</li></ul>	

## Prevention of Session Hijacking Using Session ID Reset Approach

Oct 2021 – Jan 2022

### Network Security

Go, Rust, Kerberos

- Developed a session hijacking prevention system using a session ID reset approach to enhance security
- Implemented the Kerberos authentication protocol to secure session management and authentication processes
- Used Go and Rust to build a robust and efficient system for session ID management and secure communication
- Integrated advanced security features to protect against session hijacking and unauthorized access

## Vostok: Rust-Based HTTP Transformation Layer

July 2021 – Nov 2021

### API Migration

Rust, HTTP, GraphQL

- Developed Vostok, a Rust-based HTTP transformation layer that converts REST API calls into GraphQL queries
- Enabled piecemeal migrations from REST to GraphQL, allowing for incremental adoption of GraphQL within existing systems
- Created a flexible and high-performance solution to streamline the transition between API paradigms
- Ensured seamless integration with existing REST endpoints while gradually introducing GraphQL features

## LLM FASTAPI: Language Model Server Implementation

May 2023 – July 2023

### Language Modeling

FastAPI, gRPC, Large Language Models

- Demonstrated the implementation of a Language Model Server using FastAPI and gRPC
- Leveraged a large language model to generate coherent and contextually relevant text based on user input
- Designed and developed a high-performance server capable of handling multiple concurrent requests for text generation
- Utilized gRPC for efficient communication between the server and client applications

## Stable Diffusion: FastAPI-Based Image Generation

May 2023 – June 2023

### Image Generation

FastAPI, Stable Diffusion, Pydantic

- Developed a FastAPI application serving a Stable Diffusion model over HTTP/REST APIs
- Enabled image generation using the Stable Diffusion technique through RESTful API endpoints
- Integrated Pydantic for input data validation to ensure robust and accurate model interactions
- Implemented streaming responses to efficiently serve generated images and handle large payloads

## Sitemap Crawler for SEO (Search Engine Optimization)

May 2024 – Aug 2024

### SEO Automation

Go

- Developed a Go-based sitemap crawler to automate the extraction of SEO data from websites
- Implemented automatic sitemap discovery and parsing from a given base URL
- Extracted critical SEO metrics such as page titles, H1 tags, and meta descriptions
- Managed multiple URLs concurrently to speed up the crawling process
- Adhered to robots.txt directives to ensure compliant web scraping

## CERTIFICATIONS

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- Advanced Branching and Looping in GO
- Concurrent Programming With GO
- Building Distributed Applications with Go
- Bayesian Methods for Machine Learning
- DeepLearning.AI TensorFlow Developer
- Advanced Linear Models for Data Science 1: Least Squares
- Advanced Linear Models for Data Science 2: Statistical Linear Models
- Deep Learning Specialization
- End-to-End Machine Learning with TensorFlow
- Sequence Models for Time Series and Natural Language Processing on Google Cloud
- Advanced C Programming Integrating C and Assembly Language
- Advanced C ThreadSafe Data with Concurrent Collections

- Kotlin For Java Developers
- Functional Programming With Clojure
- Become a Vue.js Developer
- Concurrent Programming with Android Threads Workers and Kotlin Coroutines
- Migrating from REST to GraphQL
- Building GraphQL APIs with ASP.NET Core
- JavaScript Interop in Blazor Applications
- Production Machine Learning Systems
- Recommendation Systems with TensorFlow
- Google - Fundamentals of Digital Marketing
- MongoDB for Java Developers
- Data Modeling MongoDB
- MongoDB Diagnostics and Debugging