

# Asif Patankar

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*Dynamic AI Research Engineer with 4+ years of experience developing and implementing cutting-edge machine learning models and deep learning solutions. Specialized in computer vision, 3D reconstruction, and embedded AI systems. Proven track record of enhancing model performance, optimizing AI for resource-constrained environments, and delivering impactful technological solutions across multiple industries.*

## CORE TECHNICAL SKILLS

**AI & Machine Learning:** Deep Learning, Deep Learning, Computer Vision, 3D Reconstruction, Neural Networks, CNN Architecture Design, Transfer Learning, Ensemble Learning, TensorRT Optimization

**Programming Languages:** Python, C++, C#, C, VB.NET, SQL, PLSQL

**Frameworks & Libraries:** PyTorch, TensorFlow, Keras, NVIDIA Minkowski Engine, OpenCV, CUDA, Open3D, OpenMesh

**Tools & Platforms:** AWS, NVIDIA Jetson, Embedded Systems, GDAL, QGIS, Visual Studio, SQL Server, Oracle Database

**Specialized Knowledge:** Satellite Image Processing, RGB-D Data Analysis, SLAM, 3D Point Cloud Processing, Geospatial Analysis

## PROFESSIONAL EXPERIENCE

**Senior Artificial Intelligence Research Engineer** | Narma Inc. | Daejeon, South Korea

March 2024 – April 2025

- Engineered advanced AI models for video deblurring of drone imagery, achieving significant clarity improvement over previous methodologies
- Developed Ground Station software following rigorous SDLC principles, creating a robust foundation for future enhancements
- Optimized AI detection tasks on embedded systems using TensorRT, substantially improving inference performance and efficiency
- Authored comprehensive funding proposals for AI technology initiatives, incorporating detailed market analysis and strategic planning

**Artificial Intelligence Research Engineer** | DeltaX | Seoul, South Korea

March 2023 – December 2023

- Executed complex 3D reconstruction projects by mastering 3D data formats and convolution techniques, yielding measurable advancements in accuracy
- Reproduced and enhanced state-of-the-art AI models using NVIDIA's Minkowski Engine, contributing to significant improvements in research performance metrics
- Developed deep learning pipelines for autonomous wheelchair navigation, integrating RGB-D data for efficient pathfinding during SLAM operations
- Optimized embedded systems for real-time applications, debugging complex toolchains for Renesas R-Car and Texas Instruments Jacinto 7 ADAS boards

## **Artificial Intelligence Research Engineer | Dabeo | Seoul, South Korea**

August 2020 – February 2023

- Pioneered AI-driven change detection systems leveraging satellite imagery to monitor illegal construction, generating actionable insights for urban planning
- Developed custom deep learning algorithms with near-zero false negatives, significantly optimizing accuracy rates in geospatial analysis
- Implemented innovative CNN architectures for building segmentation, incorporating edge detection algorithms to enhance shape definition
- Advanced model performance through ensemble learning methodologies, combining CNN architecture with GAN for improved segmentation results

## **Artificial Intelligence Research Engineer | GATDA Corporation | Seoul, South Korea**

December 2019 – April 2020

- Orchestrated development of RESTful APIs integrating deep learning models in production environments
- Implemented live AI models on both Android and iOS platforms, ensuring seamless cross-platform operation
- Leveraged AWS cloud services to optimize model deployment workflows and enhance system performance

## **Research Assistant | CVPR Lab | Sejong University | Seoul, South Korea**

April 2018 – August 2020

- Designed and developed software solutions to detect radish wilt using C++/C# and OpenCV, facilitating advancements in agricultural technology
- Contributed to deep learning models for recycling classification, optimizing dataset management for 176 classes
- Constructed algorithms for smart city systems, enhancing video processing capabilities for real-time monitoring
- Achieved superior accuracy in sewer inspection projects, building CNN architecture that surpassed existing benchmarks in damage detection models

## **Software Developer** | SIA Jewels Private Limited | Mumbai, India

October 2017 – December 2017

- Drove end-to-end development cycle of retail Point of Sale (POS) applications
- Upgraded existing applications to modern code standards ensuring optimal functionality
- Innovated and maintained barcode scanning modules within retail POS applications
- Optimized SQL queries for peak performance, including writing complex efficient queries
- Redesigned database architecture to seamlessly integrate application changes
- Provided Pan-India operator support as database administrator
- Managed on-site production database manipulation and SQL Server replication

## **Software Developer** | Travancore Systems | Mumbai, India

April 2017 – August 2017

- Led end-to-end development of thermal image processing applications using Non-Destructive Testing methods
- Seamlessly integrated thermal camera APIs into application architecture for real-time machinery assessment
- Implemented mathematical and statistical equations to enhance precision of image processing modules
- Crafted strategic database architectures optimizing data management and retrieval
- Applied analytical approaches to address complex image processing challenges
- Maintained optimal software performance by managing indexes of initial components

## **Freelancer** | Freelancer for Software and Database Services | Mumbai, India

October 2016 – March 2017

- Specialized in Extract, Transform, Load (ETL) processes to seamlessly integrate data across diverse systems
- Executed precise scheme mapping to ensure alignment between various datasets and sources
- Performed meticulous data reconciliation, ensuring accuracy and consistency across integrated systems
- Utilized advanced tools and methodologies to orchestrate effective ETL workflows
- Implemented robust quality checks throughout the ETL process, ensuring data reliability
- Collaborated with cross-functional teams to solve complex data integration challenges

## **Software Developer** | Parle Global Technologies Pvt. Ltd. | Mumbai, India

August 2015 – September 2016

- Expertly analyzed user specifications for logical workability, completeness, and optimal business flow for both existing and developing applications
- Designed robust databases with complex nested queries, views, and implemented advanced concepts like data encapsulation and inheritance

- Conducted rigorous unit testing, system testing, and performance tuning aligned with development standards
- Provided expert support to on-site engineers, ensuring efficient problem resolution
- Enhanced SCADA GUIs for improved supervisory control and data acquisition efficiency
- Implemented secure coding solutions for authentication, authorization, and user management
- Engineered 2D barcode generation systems with information like batch numbers and manufacturing dates
- Developed algorithms for generating random unique alphanumeric characters for barcode serialization

## **Software Developer | Pixtron Technologies | Mumbai, India**

June 2014 – July 2015

- Collaborated with cross-functional teams to plan, design, and develop new feature functionalities for software applications
- Translated customer and internal specifications into actionable technical solutions
- Identified, troubleshooted, and debugged defects within designated application code
- Spearheaded development and implementation of novel software features enhancing user experience
- Championed code review processes ensuring adherence to coding standards and best practices
- Leveraged cutting-edge technologies to drive innovation and deliver robust software solutions
- Actively engaged with peers to exchange insights and collectively tackle complex coding challenges

## **Teacher | Shahnaz Tutorials | Mumbai, India**

June 2007 – May 2014

- Taught Mathematics and Computer Science to Secondary School students
- Instructed Higher Secondary Commerce students in Mathematics
- Expanded to teaching Physics, Chemistry, Biology, and Mathematics to Science students (2012)
- Provided instruction in Programming Languages
- Taught Mathematics to Diploma (Mechanical/Production) and Engineering students (2014)
- Managed finance and marketing operations for the tutorial center
- Implemented innovative teaching methodologies catering to diverse learning styles

## **PUBLICATIONS & TECHNICAL WRITINGS**

### **Medium Articles on AI & Deep Learning**

- “Automating SoftEther VPN Client Connections on Linux: A Complete Guide” (2025)
- “Automating Drone Video Streaming: A Practical Guide” (2025)
- “Video Streaming from Jetson Nano to QGroundControl: A Comprehensive Guide” (2025)
- “How to Set Up and Connect SoftEther VPN Client on ARM64 (Jetson Devices)” (2025)
- “Flashing NVIDIA Jetson Xavier NX on SeedStudio reComputer J202 Using Linux Mint: A Step-by-Step Guide” (2025)
- “Implementing Real-time People Detection with PeopleNet on NVIDIA Jetson” (2024)
- “Integrating Raspberry Pi Camera V2 with NVIDIA Jetson Nano: A Complete Guide” (2024)
- “Setting Up NVIDIA Jetson Nano B01 on Linux Mint: A Comprehensive Guide” (2024)
- “Practical CUDA Programming: From Basic to Tensor Core Optimized Matrix Multiplication” (2024)
- “Understanding CUDA Flag Architectures: A Deep Dive into GPU Computation” (2024)
- “Building a TensorRT Engine from ONNX Model on Linux Mint” (2024)
- “How to Install TensorRT 8.6 with CUDA 12.2 on Linux Mint 21.3” (2024)

## **Research Publications**

- Patankar, Asif Ashraf, and Hyeonjoon Moon. "Automatic radish wilt detection using image processing based techniques and machine learning algorithm." arXiv preprint arXiv:2009.00173 (2020).

## **EDUCATION**

### **Master of Science in Computer Science**

Sejong University, Seoul, South Korea | 2020

### **Bachelor of Science in Information Technology**

University of Mumbai, Mumbai, India | 2007

## **CERTIFICATES**

- Oracle Database 10g: Administration Workshop II Release 2
- Oracle Database 10g: Administration Workshop I Release 2
- Oracle Database 10g: Program with PL/SQL
- Oracle Database 10g: Introduction to SQL
- Certificate Course in C and C++

## **LANGUAGES**

English (IELTS 6.5), Hindi, Marathi, Urdu, Korean (Basic)