

AHTASHAM ILYAS

Computer Vision Engineer & AI Specialist

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EXPERIENCE

Werkstudent Computer Vision 📅 Oct 2025 – Present
AICOR Institute for Artificial Intelligence (IAI) 📍 Bremen, Germany

- Contributing to **FAME project** (Future-oriented cognitive Action Modelling Engine) for intelligent robotic systems
- Robot Perception**: Designing CV algorithms for object detection, instance segmentation, and **multi-object 6D pose estimation** from RGB-only input
- Geometrical Deep Learning**: Leveraging graph-based and manifold learning for structured task representations and generalization
- Scene Understanding**: Supporting mental/physics-based simulation pipelines bridging visual perception with cognitive reasoning
- Computer Vision** **6D Pose Estimation** **Deep Learning**

Python & Data Specialist 📅 Jun 2024 – Dec 2024
CandidateSide Recruiting 📍 Onsite

- Implemented reverse recruiting system with automated job matching algorithms using ML techniques
- Built web scraping pipeline using Python and Selenium with GPT-powered data filtering and analysis
- Developed JavaScript extension for one-click auto-fill of application forms, **increasing efficiency by 60%**
- Python** **Selenium** **OpenAI GPT** **ML**

Full-Stack Developer 📅 Nov 2023 – Jun 2024
Prime Missions (UK) 📍 Remote

- Developed responsive web applications with focus on data-driven features and user experience
- Built RESTful APIs and implemented server-side logic with performance optimization
- Worked with cloud platforms (AWS, Azure, Google Cloud) and containerization technologies (Docker)
- Implemented DevOps practices using Jenkins, CircleCI, and Ansible for CI/CD pipelines

EDUCATION

M.Sc. Artificial Intelligence & Intelligent Systems 📅 Oct 2024 – Present
University of Bremen 📍 Bremen, Germany

- Major**: Machine Learning and Cognitive Systems (MLCS), **Current Grade: 1.3**
- Key Courses**: Advanced ML, Reinforcement Learning, AI Algorithms, Computer Vision
- Master Project (24 ECTS)**: ACRAMBly on Robot Perception — Prof. Michael Beetz
- Developed ROS2 Jazzy node integrating **FoundationPose** and **GroundedSAM** for real-time 6D object pose estimation from RealSense RGB-D streams with TF publishing
- [Project Link](#) — [GitHub Repository](#)

COMPUTER VISION SKILLS

👁 Core Expertise

- Object Detection & Segmentation
- 6D Pose Estimation
- Instance Segmentation
- RGB-D Processing
- Scene Understanding
- Real-time CV Algorithms

⚙️ CV Libraries & Tools

- OpenCV (Advanced)
- FoundationPose
- GroundedSAM
- PCL (Point Cloud Library)
- RealSense SDK
- YOLO, Mask R-CNN

🤖 Robotics Stack

- ROS2 Jazzy
- TF2 Transforms
- Sensor Integration
- Robot Perception

TECHNICAL STACK

💻 Programming

- Python (Expert)
- C++ (Proficient)
- Git/GitHub/GitLab
- Linux Development

🧠 Deep Learning

- PyTorch
- TensorFlow
- Graph Neural Networks
- Geometrical Deep Learning

📊 Data Science

- NumPy, Pandas
- Scikit-learn
- Data Visualization
- Feature Engineering

CERTIFICATIONS

📄 DataCamp AI Engineer

for Data Scientists Associate
Apr 2025 – Apr 2027

B.S. Computer Science

MUST University

Oct 2019 – Nov 2023

Pakistan

- **First Class Honors** – CGPA: 3.00/4.00, **Ranked 5th/86**, Dean's List
- Strong emphasis on software development and research
- **Capstone:** Research on University's Research Papers

COMPUTER VISION PROJECTS

ACRAMbly Robot Perception System

Master Project — University of Bremen

Oct 2024 – Present

- Developed **ROS2 Jazzy** node for real-time 6D object pose estimation pipeline
- Integrated **FoundationPose** for model-free pose tracking and **GroundedSAM** for instance segmentation
- Processed **RealSense RGB-D streams** with TF2 broadcasting for robot manipulation
- **ROS2** **OpenCV** **PyTorch** **6D Pose** **RGB-D**

Anti-Money Laundering Detection

Bremen Big Data Challenge (BBDC) 2025 – Winner

Mar 2025

- Developed ML solution for fraud detection with **95% accuracy**
- Engineered **30+ custom features**: time-based patterns, balance volatility, transfer behaviors
- Implemented ensemble: Random Forest, XGBoost, LightGBM with hyperparameter optimization
- **Python** **Scikit-learn** **XGBoost** **Feature Engineering**

HONORS & AWARDS

AI Toolbox Hackathon

U Bremen Research Alliance

Built multi-backend imputation library for explainable AI (SHAP) compatible with NumPy, PyTorch, and JAX. Implemented generic n-dimensional PatchGrouping for images, videos, and tensors. Clean API design with lazy dispatch approach.

[GitHub](#) — [Event Link](#)

Nov 2025

BBDC 2025 Winner

Bremen Big Data Challenge – Anti-Money Laundering Detection

Mar 2025

PUBLICATIONS & SPEAKING

Technical Articles

10 articles on Medium with **10k+ total views** on ML, CV, and AI topics

Conference Speaking

Invited speaker at 4 events, organized 3+ workshops on AI/ML

DataCamp Python Data

Associate

Mar 2025 – Mar 2027

GitHub Foundations

Apr 2025 – Apr 2028

University of Bremen

LLMs in Code Development

Feb 2025

ML SPECIALIZATIONS

DeepLearning.AI

Machine Learning Specialization

Nov 2022 – Dec 2023

Microsoft Azure

Data Engineer & Data Scientist

Associate

LANGUAGES

English (Fluent)

German (Intermediate)

REFEREES

Prof. Dr. h.c. Michael Beetz

Institute AI, Uni Bremen

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AI & Intelligent Systems

Prof. Dr. Samina Khalid

MUST University

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Computer Science Dept.