SHRIARULMOZHIVARMAN G C

Machine Learning Engineer - Computer Vision

 Vienna, Austria   ✉ shriarulmozhivarman@outlook.com   📞 +43 665 6711221   shriarul5273

 shriarulmozhivarman   huggingface.co/shriarul5273

Experience

Computer Vision Research Engineer   Vienna, Austria
AIT Austrian Institute of Technology GmbH   Feb 2023 – Nov 2025

Topic: Spatial AI models exploiting geometric, motion and appearance cues.

- Developed and deployed three spatial deep learning models: 3D line detection, 2D line detection, and bird's-eye-view estimation with temporal aggregation.
- Built a large-scale synthetic data generation and preprocessing pipeline to accelerate training data annotation.
- Benchmarked state-of-the-art stereo and geometric vision methods to establish accuracy, latency, and robustness baselines.
- Strengthened performance under challenging conditions by continuously expanding and refining large-scale datasets with edge-case scenarios.
- Integrated trained perception models into production systems to enable real-time inference at scale.
- Owned experiment tracking, documentation, and evaluation workflows to ensure reproducibility and maintainability.
- Enabled planning and decision-making by defining requirements, identifying risks, and presenting performance insights to stakeholders.

Research Internship   Dijon, France
Imagerie et Vision Artificielle (ImViA), University of Burgundy   Feb 2022 – Jul 2022

Topic: RGB-Depth Fusion for Salient Object Detection. Supervisor: Prof. Dr. Cedric Demonceaux.

- Designed a robust multi-modal model with dynamic attention to handle noisy or misaligned inputs.
- Enhanced spatial-attention fusion strategies to improve RGB-D alignment and feature consistency.
- Optimized a lightweight, real-time saliency model to achieve state-of-the-art results across multiple benchmarks.
- Integrated the quantized model into ROS for real-time inference on mobile robotic platforms.
- Coordinated dataset annotation and experiment scheduling to ensure consistent evaluation.
- Collaborated with supervisors and stakeholders to refine goals, validate requirements, and integrate feedback.

Additional work experience is available on LinkedIn.

Education

Pre-doctoral Researcher in Computer Vision
Vienna University of Technology (TU Wien)
Supervised by Prof. Dr. Margit Gelautz

Vienna, Austria
Jun 2023 – Present

- Conducted Spatial AI research at AIT, combining 3D geometry and vision-based perception techniques with real-world deployment efforts.
- Mentored two undergraduate thesis students on 3D human pose estimation for human-robot imitation systems, providing guidance in model development, evaluation, and experimental design.

Master of Science in Computer Vision
University of Burgundy
Specialization: Vision and Robotics

Le Creusot, France
Sept 2020 – Sept 2022

- Thesis: Robust RGB-Depth Images Fusion for Salient Object Detection
- Graduated with Honors (Mention très bien)
- Best Student Award 2020-2022 for Academic Excellence.

Bachelor of Science in Mechatronics
Vilnius Tech
Specialization: Mechatronics and Robotics

Vilnius, Lithuania
Sept 2015 – Jun 2019

- Thesis: Design Of Collaborative Indoor Robots

Vision Expertise

Core Areas: Scene Segmentation, Spatial Estimation, Pose Estimation, Object Detection

Toolkits: OpenCV, Open3D, Point Cloud Library, MMDetection, Ultralytics YOLO

Image Modalities: RGB, RGB-D, LiDAR, Depth, Disparity, Point Clouds

SDK: Stereolabs ZED, Azure Kinect Sensor, Intel RealSense, Ouster Sensor

Skills

Programming Languages: Python (Advanced), C++ (Intermediate), MATLAB

Deep Learning Frameworks: PyTorch, scikit-learn, TensorFlow, PyTorch Lightning

Cloud (AWS): SageMaker, Lambda, S3, EC2, ECR

DevOps & Deployment: Git, GitHub Actions, Docker, MLflow, Weights & Biases

Optimization & Training: ONNX, TensorRT, Quantization, Pruning, Distributed Training

Web & API Development: Flask, FastAPI, Gradio

Operating Systems & Middleware: Linux, ROS, ROS2

Language: English (working professional), Tamil (native)

References

- **Dr. Csaba Beleznai**
  Senior Scientist (Computer Vision)
  AIT Austrian Institute of Technology
  csaba.beleznai@ait.ac.at

- **Prof. Dr. Margit Gelautz**
  Associate Professor (Computer Vision)
  Vienna University of Technology
  margit.gelautz@tuwien.ac.at