



Akhil Gurram

RESEARCH SCIENTIST

Profile Summary

Overall 9 years of **Research** experience in **Computer Vision and Machine Learning**, with an extensive background in engineering principles, project leadership, and the effective application of research in technological companies. Participated in scientific **publications** and **patents**. I am currently working on research projects for the implementation of an **ADAS** framework with the support of **self-supervision**, **domain adaptation**, and **multi-task learning** on **multi-modal** data. Adept in working with researchers/engineers and project managers at multiple levels to utilize research data effectively and achieve optimal results.

Professional Experience

Algorithm Engineer, Huawei München Research Center, München

NOVEMBER 2016 – PRESENT

- Research and design novel self-supervision approaches to develop deep learning algorithms for Autonomous Driving Perception Systems.
- Responsible for providing robust, efficient, and reliable Monocular Depth Estimation for multi-view cameras, and Semantic Segmentation framework.
- Deploying SOTA work onto the test vehicle through the ROS interface.
- Support the development of data extraction & processing, and enabling easy accessibility of using large data sets with different data sources (Cameras, LiDAR, GPS, IMU, Wheel Odometry, etc.) for Neural Network models training and evaluation.
- Handling the servers and Identify bottlenecks & bugs to maintain code quality.
- Actively contributed to publishing patents and research papers.

Research Associate, Blaize AI (Formerly Thinci), Hyderabad

JANUARY 2013 – AUGUST 2015

- Research & Development on traditional computer vision and deep learning algorithms for the Stereo disparity, pedestrian detection, object recognition, face detection, etc.
- Built a robust, efficient system and achieved good performance characteristics.
- Deploying CNN models (Image Classification-AlexNet) on Blaize AI GSP.
- Quantization and low precision fine-tuning of neural networks suitable for optimal performance on Blaize AI GSP.

Selected Publications

2018 – 2021

- **Monocular Depth Estimation through Virtual-world Supervision and Real-world SfM Self-Supervision.** A. Gurram, A. F. Tuna, F. Shen, O. Urfalioglu, A. M. López: arXiv preprint-2021. [Paper](#), [Scripts](#)
- **Multimodal End-to-End Autonomous Driving.** Y. Xiao, F. Codevilla, A. Gurram, O. Urfalioglu, A. M. López: Proc. IEEE Transactions on Intelligent Transportation - 2020. [Paper](#)
- **Monocular Depth Estimation by Learning from Heterogeneous Datasets.** A. Gurram, O. Urfalioglu, I. Halfaoui, F. Bouzaraa, and A. M. López: Conference - Proc. IEEE-Intelligent Vehicles Symposium-2018. [Paper](#)

Contact Details

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Links

[LinkedIn](#)
[Personal Website](#)
[Google Scholar](#)
[GitHub](#)

Skills & Strengths

Ability to Work Under Pressure

Able to accomplish overall Organization objectives

Python, MATLAB, C++

PyTorch, Tensorflow, OpenCV, MatConvNet

LaTeX

Computer Vision: Monocular Depth & Pose Estimation, Segmentation, Learnable Localization, 2D/3D Object Detection

Deep Learning: CNN, RNN, LSTM, Vision Transformers

Machine Learning & Pattern Recognition

Self-Supervision & Multitask learning

Domain Adaptation: real2virtual

Virtual-World dataset creation - CARLA

Multi-View Geometry & SLAM

Patents

2019 – 2021

- **Akhil Gurram**, Onay Urfalioglu: Domain Adaptation based on self-supervised Depth and Relative-Pose Estimation. European Patent - 2020. Pending/Filed-86937254.
- Onay Urfalioglu, **Akhil Gurram**, Ibrahim Halfaoui: Sampling-based Self-Supervised Depth and Pose Estimation. European Patent - 2020. Pending/Filed-86934297.
- Onay Urfalioglu, **Akhil Gurram**, Fahd Bouzaraa: Learnable Localization using a map with camera frames. European Patent - 2019. Pending/Filed.

Education

Industrial Ph.D. in Computer Science, Universitat Autònoma de Barcelona, Spain

NOVEMBER 2016 – PRESENT

Thesis Topic: 3D Scene Understanding on Traffic Scenarios, Deep Learning.

Fellowship: Huawei München Research Center, München, Germany.

Advisors: Prof. Antonio M. López and Dr. Onay Urfalioglu

Masters in Computer Vision, Universitat Autònoma de Barcelona, Spain

SEPTEMBER 2015 – AUGUST 2016

Thesis Topic: Depth Estimation via Deconvolutional Nets.

Advisors: Prof. Antonio M. López and Dr. German Ros

Bachelor of Electronics and Communication Engineering, Vignan Engineering College, (Affiliated to JNTUK), Andhra Pradesh, India

AUGUST 2008 – APRIL 2012

Position of Responsibilities

Student Supervision

- **Research Intern**, Deepika Mente, Action recognition on Indoor Scenarios, Blaize AI (Formerly Thinci) - GVIT, India, 2015.
- **Masters Dissertation**, Sunil Surineni, A survey on Convolutional Neural Network and 8-bit Quantization of Image Classification (AlexNet), Blaize AI (Formerly Thinci) - VIT University India, 2014.

Conference attended & Invited talks

- **Poster Presentation** on "Monocular Depth Estimation by Learning from Heterogeneous Datasets" at **IV'2018**.
- **Invited talk** on "Monocular Depth Estimation on Traffic Scenarios" at Huawei HQ, Shanghai, China - 2018.
- **Invited talk** on "Development of Image processing and Computer Vision applications using MATLAB" at Vignan Lara Engineering College, India - 2015.

References

Prof. Antonio M. López (P.I. of ADAS group) from Universitat Autònoma de Barcelona, Spain. antonio@cvc.uab.es

Dr. Onay Urfalioglu (Team Lead) from Huawei München Research Center, Germany onay.urfalioglu@gmail.com

Dinakar C. Munagala (CEO), Blaize AI, California, USA. dinakar.c.munagala@blaize.com

Rajesh Kandlagunta (AI/ML Technical Product Manager) from Blaize AI (Formerly Thinci), India rajesh.kandlagunta@blaize.com