



Vivek Sharma

Curriculum Vitae





IAR/CV:HCI, Room No: 001
Vincenz-Priesnitz-Str. 3 Geb.07.08
Karlsruhe 76131, Germany
☎ (+49) 176 7156 1358
☎ (+49) 721 608 45929
✉ sharma.vivek@live.in, vivek.sharma@kit.edu
<https://cvhci.anthropomatic.kit.edu/~vsharma>



Education




- 09/12-09/14  **Color in Informatics and Media Technology (CIMET): Master of Science (M.Sc.),** I-Sem: University Jean Monnet, FRANCE. M.Sc. in "Optics, Image, Vision". II-Sem: University of Granada, SPAIN. M.Sc. in "Informatics & Media Technology". III-Sem: Norwegian University of Science and Technology, NORWAY. M.Sc. in "Applied Computer Science". IV-Sem: Karlsruhe Institute of Technology, GERMANY. "Master Thesis".
CGPA - 7.8/10 with Distinction Marks (Honours), ECTS - 120.
- 08/07-07/11  **Computer Science & Engineering: Bachelor of Technology (B.Tech.),** B.K. Birla Institute of Engineering and Technology (BKBIET), INDIA.
CGPA - 7.73/10 with First Division.






Work Experience

- 3/17-Now  **DFG Funded Project: PLUMCOT.**
Institute for Anthropomatics and Robotics, CV:HCI Lab, Karlsruhe Institute of Technology (KIT).
Position: Researcher. Employer: Prof. Dr. Rainer Stiefelhagen.
- 01/15-1/17  **EU Funded Project - ROVINA.**
Department of Electrical Engineering (ESAT) - Center for Processing Speech and Images (PSI), KU Leuven. Position: Research Assistant. Employer: Prof. Luc Van Gool, KU Leuven/ETH Zürich
- 11/11-10/12  **Project: ViMuDat.**
Visual Inspection Systems (SPR), Fraunhofer IOSB. Position: Research Associate. Employer: Prof. Dr. -Ing. Thomas Längle, Head of the Research Group.
- 08/11-10/12  **Project: CADaVISION (BMBF 01ISO9036B),** [Link-to-PDF](#).
Institute of Process Control, Automation & Robotics, Karlsruhe Institute of Technology (KIT).
Position: Guest Researcher. Employer: Prof. Dr. -Ing. Heinz Wörn, Dean of Computer Science.

Academic Thesis & Project

Master

- 01/14-06/14  **Thesis: Training and Evaluation of a Framework for Pixel-wise Object Class Segmentation based on Synthetic Depth Data,** Project (KIT): AMIKA.
 Karlsruhe Institute of Technology (KIT), Norwegian University of Science and Technology (NTNU), University of Oslo (UiO) and Oslo University Hospital HF. Supervisor: Prof. Dr. -Ing. Heinz Wörn (KIT) and Assoc. Prof. Dr. Şule Yildirim Yayilgan (NTNU) and Assoc. Prof. Dr. Ole Jakob Elle (UiO & Oslo University Hospital HF).
- 11/13-12/13  **Project: Hyperspectral Imaging Workflow & Encoding Standards,** [Link-to-PDF](#).
Norwegian Colour and Visual Computing Laboratory, and NTNU. Position: Student Research Assistant. Supervisor: Prof. Jon Yngve Hardeberg

- 8/13-12/13 **Industrial Project: Waste sorting by Intelligent Machine Vision**, [Link-to-PDF](#).
 University of Eastern Finland (UEF), Norwegian University of Science and Technology (NTNU), and ZenRobotics (Finland). Supervisor: Prof. Markku Hauta-Kasari & Prof. Jon Yngve Hardeberg.
- 8/13-11/13 **Project: Scene Understanding using Conditional Random Fields for Safe Human Robot Collaboration**, [Link-to-PDF](#).
 Norwegian Colour and Visual Computing Laboratory, UiO, and NTNU. Position: Student Research Assistant. Supervisor: Prof. Dr. Faouzi Alaya Cheikh
- 6/13-8/13 **Internship: Material identification in different weather conditions for unsupervised traffic control systems**, [Link-to-PDF](#).
 Color Imaging Lab, University of Granada (UGR), and Tecnalia Robotiker (Bilbao, Spain). Supervisor: Prof. Eva M. Valero (UGR).
- 2/13-6/13 **Project: 3D cloud maps**, [Link-to-PDF](#).
 Andalusian Center for Environmental Research (CEAMA), University of Granada (UGR), NASA AERONET (AERosol Robotic NETwork). Position: Student Research Assistant. Supervisor: Prof. Lucas Alados Arboledas, Head of the Atmospheric Physics Institute.
- Bachelor**
- 01/11-06/11 **Thesis: Gesture Recognition & Reproduction**.
 B.K. Birla Institute of Engineering and Technology. Supervisor: Assoc. Prof. Lovendra Solanki, Dean of Electrical & Electronics Engineering Department.

Awards

- 2013 **Appreciation.**
Overall topper of first semester of my Master courses taken at University of Jean Monnet.
- 2012 **European Commission Scholarship.**
Awarded an amount of 48,000 Euros for my Master program, selected among 500 candidates.
- 2011 **Appreciation.**
Among the top 10% out of 65 students graduated B.Tech in Computer Science, BKBIET.
- 2009 **Best Event Organized Award.**
Awarded for organizing the best event in the Annual Technical Fest "QUASAR".

Conference and Workshops Attended/Organized

Publications

- 2017 **Vivek Sharma**, Jon Yngve Hardeberg, Sony George. RGB-NIR Image Enhancement by Fusing Bilateral and Weighted Least Squares Filters. *In Journal for Imaging, Science & Technology (JIST-First) and Color and Imaging Conference (CIC), Oral.*
- 2017 Ali Diba*, **Vivek Sharma***, Luc Van Gool. Deep Temporal Linear Encoding Networks. *In CVPR IEEE CVPR, Poster.*
- 2017 Ali Diba, **Vivek Sharma**, Ali Pazandeh, Hamed Pirsiavash, Luc Van Gool. Weakly Supervised Cascaded Convolutional Networks. *In IEEE CVPR, Poster.*
- 2017 **Vivek Sharma**, Saquib M. Sarfraz, Rainer Stiefelhagen. A Simple and Effective Technique for Face Clustering in TV Series. *In IEEE CVPR Workshop: Brave New Motion Representations, Poster.*
- 2016 **Vivek Sharma**, Ali Diba, Tinne Tuytelaars, Luc Van Gool. Hyperspectral CNN for Image Classification & Band Selection, with Application to Face Recognition. Tech. Report
- 2016 **Vivek Sharma**, Luc Van Gool. Does V-NIR based Image Enhancement Come with Better Features? *CoRR abs/1608.06521.* arXiv-Link

⁰The technical reports of the study are available upon request. * contributed equally to the work, and in alphabetical order.

- 2016 **Vivek Sharma**, Jose Antonio Oramas Mogrovejo. A Novel Approach for an Interactive Tech. Report Hyperspectral Image Segmentation.
- 2016 **Vivek Sharma**, Luc Van Gool. Image-level Classification in Hyperspectral Images using arXiv-Link Feature Descriptors, with Application to Face Recognition. *CoRR abs/1605.03428*.
- 2016 **Vivek Sharma**, Şule Yildirim-Yayilgan, Luc Van Gool. Low-Cost Scene Modeling using a RO-MAN Density Function Improves Segmentation Performance. *In IEEE RO-MAN, Oral*.
- 2015 **Vivek Sharma**, Şule Yildirim-Yayilgan, Frank Dittrich, Luc Van Gool. Efficient Real-Time ICML Pixelwise Object Class Labeling for Safe Human-Robot Collaboration in Industrial Domain. *In ICML Workshops, Oral*.
- 2015 **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Luc Van Gool. Improving Human CVPR Pose Recognition Accuracy using CRF modeling. *In IEEE CVPR Workshops, Poster*.
- 2015 **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Ali Shariq Imran, Heinz Wörn. How HCI to tune a Random Forest for Real-Time Segmentation in Safe Human-Robot Collaboration? *In International Conference on HCI, Poster*.
- 2015 **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Heinz Wörn. How does Energy EMMCVPR Minimization Improve Recognizing Human Poses for Safe Human-Robot Collaboration? *In EMMCVPR, Poster*.
- 2014 Frank Dittrich, **Vivek Sharma**, Heinz Wörn, Şule Yildirim-Yayilgan. Pixelwise Object Class Link Segmentation based on Synthetic Data using an Optimized Training Strategy. *In IEEE ICNSC, Oral*.
- 2012 **Vivek Sharma**. CADaVISION: A Gesture Recognition Simulation. *Institute of Process Tech. Report Control, Automation & Robotics, Karlsruhe Institute of Technology, Germany*.
- 2012 **Vivek Sharma**, Dario Udovicic, Stevan Dordevic, Antonio Lucio. Sensor Fusion for Pedes- trian Tracking. *Institute of Industrial Information Technology (IIIT), Karlsruhe Institute of Technology, Germany*.

Invited Talks

- 2017 **Vivek Sharma**. Multi/Hyper-Spectral Imaging Applications in Computer Vision. *3rd Global Talk Summit and Expo on Multimedia & Applications, Lisbon, Portugal*.
- 2015 **Vivek Sharma**. Multi/Hyper-Spectral Imaging Applications. *SpectroNet International Talk Collaboration Forum, Jena, Germany*.
- 2014 **Vivek Sharma**. Scene Understanding using Conditional Random Fields for Safe Human Talk Robot Collaboration. *University of Oslo and Oslo University Hospital, Ullevål, Norway*.
- 2010 **Vivek Sharma**. Radio Frequency & Identification. *Institute of Electronics & Telecommuni- cation Engineers (IETE), BKBIET, India*.

Reviewer

- 2016, 2017 IEEE Geoscience and Remote Sensing Letters (GRSL).

Conferences Organized

- 08/02/16 **Annual Symposium in Optics**.
OSA SPIE SPIE/OSA KU Leuven Student Chapter to be held on 8-9th Feb. 2016 in Leuven.
- 16/03/12 **IONS-Germany**.
OSA SPIE Under the OSA KIT CHAPTER Student Branch OSKAR.
- 5/09/10 **Green Earth**.
IEEE Under the IEEE BKBIET CHAPTER.
- 15/03/10 **Talk on Chandrayan II (Space Vehicle Flight & Launch)**.
IEEE Under the IEEE BKBIET CHAPTER Student Branch (Region 10).

Member of Organizations

07/15-1/17	Representative of KU Leuven , SpectroNet Cross-clustering Collaboration Forum.
01/15-Now	Student Member , CVF, Member of Computer Vision Foundation.
03/15-09/16	Vice-President , OSA, KU Leuven Chapter.
11/11-09/16	Vice-President , SPIE, KU Leuven Chapter.
02/14-09/14	Student Member , TEKNA, NTNU Chapter.
11/11-10/14	Technical Leader , OSKAR(Optics Students Karlsruhe) KIT Chapter OSA, SPIE.
03/10-06/11	Secretary , IEEE BKBIET CHAPTER.
06/08-06/11	Co-Founder, President , TECHNORATS, TECHNICAL CLUB, BKBIET.

Programming Languages

- Matlab
- C, C++, C#
- Deep Learning
- OpenCV
- SQL Server Management Studio
- Linux
- Machine Learning
- Sensors

Languages

English	Advanced	
German	Intermediate Level B1	<i>Conversationally fluent</i>
Norwegian	Basic	<i>Basic words and phrases only</i>

Letter of References

NTNU	Assoc. Prof. Dr. Şule Yildirim-Yayilgan	<i>Link-to-PDF</i>
Fraunhofer	Prof. Dr. -Ing. Thomas Längle	<i>Link-to-PDF</i>
KIT	Prof. Dr. -Ing. Heinz Wörn	<i>Link-to-PDF</i>
BKBIET	Assoc. Prof. Lovendra Solanki	<i>Link-to-PDF</i>
BKBIET	Assoc. Prof. Shridhar B. Dandin	<i>Link-to-PDF</i>