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. Supervsior: Prof. Jon Yngve Hardeberg

8/13-12/13 **Industrial Project: Waste sorting by Intelligent Machine Vision**, *Link-to-PDF*.
University of Easter 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 JIST-First CIC **Vivek Sharma**, Jon Yngve Hardeberg, and 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 CVPR Ali Diba*, **Vivek Sharma***, Luc Van Gool. Deep Temporal Linear Encoding Networks. *In IEEE CVPR, Poster*.

2017 CVPR Ali Diba, **Vivek Sharma**, Ali Pazandeh, Hamed Pirsiavash, Luc Van Gool. Weakly Supervised Cascaded Convolutional Networks. *In IEEE CVPR, Poster*.

2017 CVPR **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 Tech. Report **Vivek Sharma**, Ali Diba, Tinne Tuytelaars, Luc Van Gool. Hyperspectral CNN for Image Classification & Band Selection, with Application to Face Recognition.

2016 arXiv-Link **Vivek Sharma**, Luc Van Gool. Does V-NIR based Image Enhancement Come with Better Features? *CoRR abs/1608.06521*.

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

2016 Tech. Report — **Vivek Sharma**, Jose Antonio Oramas Mogrovejo. A Novel Approach for an Interactive Hyperspectral Image Segmentation.

2016 arXiv-Link — **Vivek Sharma**, Luc Van Gool. Image-level Classification in Hyperspectral Images using Feature Descriptors, with Application to Face Recognition. *CoRR abs/1605.03428*.

2016 RO-MAN — **Vivek Sharma**, Şule Yildirim-Yayilgan, Luc Van Gool. Low-Cost Scene Modeling using a Density Function Improves Segmentation Performance. *In IEEE RO-MAN, Oral*.

2015 ICML — **Vivek Sharma**, Şule Yildirim-Yayilgan, Frank Dittrich, Luc Van Gool. Efficient Real-Time Pixelwise Object Class Labeling for Safe Human-Robot Collaboration in Industrial Domain. *In ICML Workshops, Oral*.

2015 CVPR — **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Luc Van Gool. Improving Human Pose Recognition Accuracy using CRF modeling. *In IEEE CVPR Workshops, Poster*.

2015 HCI — **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Ali Shariq Imran, Heinz Wörn. How to tune a Random Forest for Real-Time Segmentation in Safe Human-Robot Collaboration? *In International Conference on HCI, Poster*.

2015 EMMCVPR — **Vivek Sharma**, Frank Dittrich, Şule Yildirim-Yayilgan, Heinz Wörn. How does Energy Minimization Improve Recognizing Human Poses for Safe Human-Robot Collaboration? *In EMMCVPR, Poster*.

2014 Link — Frank Dittrich, **Vivek Sharma**, Heinz Wörn, Şule Yildirim-Yayilgan. Pixelwise Object Class Segmentation based on Synthetic Data using an Optimized Training Strategy. *In IEEE ICNSC, Oral*.

2012 Tech. Report — **Vivek Sharma**. CADaVISION: A Gesture Recognition Simulation. *Institute of Process Control, Automation & Robotics, Karlsruhe Institute of Technology*, Germany.

2012 Tech. Report — **Vivek Sharma**, Dario Udovicic, Stevan Dordevic, Antonio Lucio. Sensor Fusion for Pedestrian Tracking. *Institute of Industrial Information Technology (IIIT), Karlsruhe Institute of Technology*, Germany.

Invited Talks

2017 Talk — **Vivek Sharma**. Multi/Hyper-Spectral Imaging Applications in Computer Vision. *3rd Global Summit and Expo on Multimedia & Applications*, Lisbon, Portugal.

2015 Talk — **Vivek Sharma**. Multi/Hyper-Spectral Imaging Applications. *SpectroNet International Collaboration Forum*, Jena, Germany.

2014 Talk — **Vivek Sharma**. Scene Understanding using Conditional Random Fields for Safe Human Robot Collaboration. *University of Oslo and Oslo University Hospital*, Ullevål, Norway.

2010 Talk — **Vivek Sharma**. Radio Frequency & Identification. *Institute of Electronics & Telecommunication 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** *Conversationally fluent*
Norwegian **Basic** *Basic words and phrases only*

Letter of References

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