



Vivek Sharma

Curriculum Vitae

ESAT- PSI
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Education

- 10/12-10/14  **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.
- 09/07-07/11  **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

- 01/15-Now  **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
- 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.
- 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.

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**, Ali Diba, Tinne Tuytelaars, Luc Van Gool. Hyperspectral CNN for Image Under Review Classification & Band Selection, with Application to Face Recognition. *In submission*.

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

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 Link Density Function Improves Segmentation Performance. *In IEEE RO-MAN, Oral*.

2015 **Vivek Sharma**, Şule Yildirim-Yayilgan, Frank Dittrich, Luc Van Gool. Efficient Real-Time Link 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 Link Pose Recognition Accuracy using CRF modeling. *In IEEE CVPR Workshops, Poster*.

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

- 2015 **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 **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 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 **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 Pedestrian 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 Robot Collaboration. *University of Oslo and Oslo University Hospital, Ullevål, Norway.*
- 2010 **Vivek Sharma**. Radio Frequency & Identification. *Institute of Electronics & Telecommunication Engineers (IETE), BKBIET, India.*

Reviewer

- 2016 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-Now **Representative of KU Leuven**, SpectroNet Cross-clustering Collaboration Forum.
- 01/15-Now **Student Member**, CVF, Member of Computer Vision Foundation.
- 03/15-Now **Vice-President**, OSA, KU Leuven Chapter.
- 11/11-Now **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 with Experience

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

Languages

English	Advanced
German	Intermediate Level B1
Norwegian	Basic

Conversationally fluent
Basic words and phrases only

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>