Grégory ROGEZ

NAVER LABS Europe
6 Chemin de Maupertuis
38240 Meylan, FRANCE

Senior Research Scientist
www.gregrogez.net
firstname.lastname@naverlabs.com

Education

- **Universidad de Zaragoza** — **Zaragoza, Spain**
  Ph.D. with highest honors, Computer Vision — *June 2012*
  - Thesis: 'Advances in exemplar-based monocular human body pose analysis: modeling, detection and tracking"
- **Universidad de Zaragoza** — **Zaragoza, Spain**
  D.E.A. (M.Sc.), Biomedical Engineering — *2004 – 2005*
  - Graduated with a 92% GPA, relevant courses: biomechanics, advanced signal and image processing, biomedical visualization, biometrics, neural networks, 3D vision.
- **Centrale Marseille (ex-ENSPM)** — **Marseille, France**
  M.Eng. Engineering Physics — *1996 – 2002*
  - Graduated with a major in information processing and telecommunications engineering.

Experience

- **NAVER LABS Europe** — **Grenoble, France**
  Senior Research Scientist — *Feb. 2019 – present*
  - I am currently working on end-to-end deep learning architectures for human sensing.
- **Inria** — **Grenoble, France**
  Research Scientist — *July 2015 – Jan. 2019*
  - I worked on data synthesis and end-to-end deep learning architectures for human detection, 2D/3D pose recognition, 3D surface prediction and activity recognition in real-world images and videos. I supervised several students on these topics and wrote several grant proposals.
- **Univ. of California, Irvine** — **Irvine, USA**
  Marie Curie Fellow - Visiting Project Scientist — *July 2013 – June 2015*
  - I managed the project EgoVision4Health and introduced the use of wearable RGB-D cameras to estimate hand pose and analyze hand-object interactions. I explored the use of synthetic data and CNN features for hand pose and contact+force prediction from RGB-D images.
- **Oxford Brookes University** — **Oxford, UK**
  Research Fellow — *July 2009 – Oct. 2010*
  - I built a proof of concept and developed a real-time motion capture demonstrator. I also co-supervised students and wrote several grant proposals for EU and UK calls.
- **Universidad de Zaragoza** — **Zaragoza, Spain**
  Researcher — *March 2011 – May 2012*
  - I worked on human motion analysis including full-body pose estimation and tracking, activity recognition and video-surveillance. I wrote a successful Marie Curie IOF project.

  Research Assistant — *May 2004 – June 2009*
  - I contributed research to advance state-of-the-art on monocular human body pose analysis. I collaborated with other researchers on biometrics, emotion recognition and video-surveillance.

Software Engineer *Oct. 2002 – Apr. 2004*

- Design and implementation in C/C++ of video-surveillance algorithms for motion detection, left-luggage detection, tracking, fall detection.
- Design, prototyping and development of vision-based OCR applications, including a license plate recognition system commercialized by DeInta (www.deinta.com/pdf/cap.pdf)

- **GEMS-General Electric Medical Systems** **Buc, France**
  Engineering Physics Intern *June 2001 – Dec. 2001*
  - Design & validation of image quality tests (contrast, noise) for X-ray vascular imaging system.

Academic Visits

- **University of California** **Irvine, USA**
  Computational Vision Group (with Prof. Deva Ramanan) *July 2013 – June 2015*
  - Visiting Project Scientist working on the EU project: Assessing Activities of Daily Living from a Wearable RGB-D Camera for In-Home Health Care Applications.
- **Oxford Brookes University** **Oxford, UK**
  Computer Vision Group (with Prof. Philip H. S. Torr) *2007 – 2009*
  - Jan. - June 2009: Co-supervision of students, grant proposal writing.
  - May - July 2008: Implementation in C++ of existing Matlab code, grant proposal writing.
  - July - Dec. 2007: Research of a human pose detector (published at CVPR).
- **CVC - Computer Vision Center** **Barcelona, Spain**
  ISE Lab (with Prof. Jordi Gonzalez) *June – Sept., 2006*
  - Development of a human pose tracker based on Particle Filtering (oral at ICCV Workshop).
- **FORTH-ICS - Dept of Computer Science** **Hiraklio, Greece**
  CVRL Laboratory (with Prof. Antonis Argyros) *March – Sept. 2002*
  - M.Eng. Project: design and implementation in C/C++ of a planar feature detector for stereoscopic vision system. Key words: KLT feature tracker, corner matching.

Awards, Grants & Honours

Amazon Academic Research Awards (AARA) ($80,000) . . . . . Jan. 2018
CVPR 2017 Outstanding Reviewer Award . . . . . July 2017
Amazon Academic Research Awards (AARA) ($80,000) . . . . . Jan. 2017
Marie Curie IOF Fellowship (€265,000) . . . . . July 2013 – June 2016
IPAM UCLA Grant ($1,000) . . . . . July 2013
AERFAI Best PhD thesis Award (€800) . . . . . June 2013
JRC (cat.30) 3-year postdoc grant (declined) . . . . . Dec. 2012
"European Doctorate" PhD honorific mention . . . . . June 2012
HEIF (Higher Education Innovation Funding) Proof of Concept Fund (£50,000) July 2009 – Oct. 2010
HEIF Visiting Fellow Grant (£5,000) . . . . . May 2008 – July 2008
Spanish Predoctoral Fellowship (FPU) (€70,000) . . . . . May 2004 – April 2008
Nord-PdC Regional Council Award for M.Eng. project (€600) . . . . . Oct. 2002
Leonardo Da Vinci Scholarship (€3,000) . . . . . March 2002 – Sept. 2002
French Undergraduate Scholarship (€4,000 per year) . . . . . 1996 – 2002

Publications (available at www.gregrogez.net/publications), 946 citations, h-index 14 (Feb. 1st, 2019)

Refereed Journal Articles

1. **G. Rogez**, P. Weinzaepfel and C. Schmid, LCR-Net++: Multi-person 2D and 3D Pose Detection in Natural Images. to appear in IEEE Trans. PAMI. **7 citations.**

2. **G. Rogez** and C. Schmid. Image-Based Synthesis for Deep 3D Human Pose Estimation. *International Journal of Computer Vision (IJCV)*, Vol 126(9), pp 993-1008, 2018. **5 citations.**

3. J. Supancic, **G. Rogez**, Y. Yang, J. Shotton, D. Ramanan. Depth-based Hand Pose Estimation: Methods, Data & Challenges. *Int. J. of Comp.Vision (IJCV)*, Vol 126(11), pp 1180-1198, 2018.

4. **G. Rogez**, C. Orrite, J.J. Guerrero and P. H. S. Torr. Exploiting projective geometry for view-invariant monocular human motion analysis in man-made environments . *Computer Vision and Image Understanding (CVIU)*,Vol 120, pp 126-140, March 2014. **12 citations.**

5. **G. Rogez**, J. Rihan, J.J. Guerrero and C. Orrite. Monocular 3-D Gait Tracking in Surveillance Scenes. *IEEE Trans. on Cybernetics*, Vol 44(6), pp 894-909, 2014. **14 citations.**

6. **G. Rogez**, J. Rihan, C. Orrite and P. H. S. Torr. Fast Human Pose Detection using Randomized Hierarchical Cascades of Rejectors. *Int. J. of Comp.Vision (IJCV)*, Vol 99(1), pp 2926-2944, 2012. **26 citations.**

7. **G. Rogez**, C. Orrite and J. Martínez. A Spatio-Temporal 2D-Models Framework for Human Pose Recovery in Monocular Sequences. *Pattern Recognition*, Vol 41(9), Sept 2008. **50 citations.**

Top Refereed International Conference (CVPR / ICCV / NIPS / BMVC)

8. N. Chesneau, **G. Rogez**, K. Alahari and C. Schmid, Detecting Parts for Action Localization. In *British Machine Vision Conference (BMVC)*, 2017.

9. **G. Rogez**, P. Weinzaepfel and C. Schmid, LCR-Net: Localization-Classification-Regression for Human Pose. In *IEEE Conf. on Comp. Vision and Pattern Recog. (CVPR)*, 2017. **51 citations.**

10. **G. Rogez** and C. Schmid, MoCap-guided Data Augmentation for 3D Pose Estimation in the Wild. In *Neural Information Processing Systems (NIPS)*, 2016. **97 citations.**

11. **G. Rogez**, J. Supancic and D. Ramanan, Understanding Everyday Hands in Action from RGB-D Images. In *IEEE International Conf. on Computer Vision (ICCV)*, 2015. **49 citations.**

12. J. Supancic, **G. Rogez**, Y. Yang, J. Shotton, D. Ramanan. Depth-based Hand Pose Estimation: Data, Methods & Challenges. In *IEEE Int. Conf. on Comp. Vision (ICCV)*, 2015. **113 citations.**

13. **G. Rogez**, J. Supancic, D. Ramanan. First-Person Pose Recognition using Egocentric Workspaces. In *IEEE Conf. on Comp. Vision and Pattern Recog. (CVPR)*, 2015. **50 citations.**

14. **G. Rogez**, J. Rihan, S. Ramalingam, C. Orrite, P.H.S. Torr. Randomized Trees for Human Pose Detection. In *IEEE Conf. on Comp. Vision and Pattern Recog. (CVPR)*, 2008. **160 citations.**

15. **G. Rogez**, J.Guerrero, J. Martínez and C. Orrite. Viewpoint independent human motion analysis in man-made environments. In *British Machine Vision Conference (BMVC)*, 2006. **29 citations.**

Other Refereed International Conference (with Proceedings)

16. **G. Rogez**, M. Khademi, J. S. Supancic III, J.M.M. Montiel and D. Ramanan. 3D Hand Pose Detection in Egocentric RGB-D Images. In *IEEE Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV)* in conj. with ECCV 2014. **(Oral) 62 citations.**

17. C. Orrite, M. Rodríguez, E. Herrero, **G. Rogez**, S. Velastin. Automatic Segmentation and Recog. of Human Actions in Monocular Sequences. In *Int.Conf.on Pattern Recog.(ICPR)*, 2014. **10 citations.**

18. C. Orrite, A. Gañán and **G. Rogez**. HOG-Based Decision Tree for Facial Expression Classification. In *Iberian Conf. on Pattern Recognition and Image Analysis (IbPRIA)*, 2009. **(Oral) 35 citations.**

19. C. H. Ek, J. Rihan, P. H. S. Torr, **G. Rogez**, N. Lawrence. Ambiguity Modeling in Latent Spaces. In *Workshop on Machine Learning and Multimodal Interaction (MLMI)*, 2008. **65 citations.**

20. **G. Rogez**, I. Rius, J. Martínez and C. Orrite. Exploiting Spatio-Temporal Constraints for Robust 2D Pose Tracking. In *2nd Workshop on Human Motion - Understanding, Modeling, Capture and Animation*, in conj. with *ICCV* 2007. **(Oral - Acceptance Rate: 26%)**

21. **G. Rogez**, J. Guerrero, C. Orrite. View-invariant Human Feature Extraction for Video-surveillance Applications. In *IEEE Conf. on Adv. Video and Signal-based Surv.(AVSS)*, 2007. **15 citations.**

22. **G. Rogez**, J. Martínez and C. Orrite. Dealing with Non-linearity in Shape Modelling of Articulated Objects. In *Iberian Conf. on Pattern Recog. and Image Analysis (IbPRIA)*, 2007.

23. J. Martínez, C. Orrite and **G. Rogez**. Rao-Blackwellized Particle Filter for Human Appearance and Position Tracking. In *Iberian Conf. on Pattern Recog. and Image Analysis (IbPRIA)*, 2007.

24. **G. Rogez**, C. Orrite, J. Martínez and J.E. Herrero. Probabilistic Spatio-Temporal 2D-Model for Pedestrian Motion Analysis in Monocular Sequences. In *International Conf. on Articulated Motion and Deformable Objects (AMDO)*, 2006. **12 citations.**

25. **G. Rogez**, C. Orrite and J. Martínez. Human Figure Segmentation Using Independent Component Analysis. In *Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA)*, 2005.

26. C. Orrite, J. Martínez, J.E. Herrero, **G. Rogez**. 2D Silhouette and 3D Skeletal Models for Human Detection and Tracking. In *Int. Conference on Pattern Recognition (ICPR)*, 2004. **46 citations.**

International public press

27. **G. Rogez**, D. Ramanan, J.M.M. Montiel. Egovision4Health- Assessing Activities of Daily Living from a Wearable RGB-D Camera for In-Home Health Care Applications. *ERCIM News*, 2013(95).

Refereed International Workshops (without Proceedings)

28. P. Nguyen, **G. Rogez**, C. Fowlkes and D. Ramanan, The Open World of Micro-Videos. *4th International Workshop on Large Scale Visual Recognition and Retrieval: BigVision* in conj. with *IEEE CVPR 2016*, Las Vegas, 2016.

29. **G. Rogez**, M. Khademi, J. S. Supancic III, J.M.M. Montiel and D. Ramanan, 3D Hand Pose Detection in Egocentric RGB-D Images. *IEEE Workshop on Egocentric Vision* in conj. with *IEEE CVPR 2014*, Columbus, 2014

30. **G. Rogez** and C. Orrite. Constraint-based Search Through Spatio-Temporal 2D-Models Framework. *Workshop on Learning, Representation and Context for Human Sensing in Video* in conjunction with *IEEE CVPR 2006*, New York, 2006.

Technical Reports

31. **G. Rogez**, P. Weinzaepfel and C. Schmid, LCR-Net++: Multi-person 2D and 3D Pose Detection in Natural Images. *arXiv preprint*, arXiv:1803.00455, 2018.

32. P. Nguyen, **G. Rogez**, C. Fowlkes and D. Ramanan, The Open World of Micro-Videos. *arXiv preprint*, arXiv:1603.09439, 2016. **13 citations.**

33. **G. Rogez** and C. Schmid, MoCap-guided Data Augmentation for 3D Pose Estimation in the Wild. *arXiv preprint*, arXiv:1607.02046, 2016

34. J. S. Supancic III, **G. Rogez**, Y. Yang, J. Shotton and D. Ramanan. Depth-based Hand Pose Estimation: Methods, Data, and Challenges. *arXiv preprint*, arXiv:1504.06378, 2015

35. **G. Rogez**, J. S. Supancic III and D. Ramanan. Egocentric Pose Recognition in Four Lines of Code. *arXiv preprint*, arXiv:1412.0060, 2014

36. **G. Rogez**, M. Khademi, J. S. Supancic III, J.M.M. Montiel and D. Ramanan, 3D Hand Pose Detection in Egocentric RGB-D Images. *arXiv preprint*, arXiv:1412.0065, 2014

Participation in Funded Projects

European and National Research Projects

- "ALLEGRO - Active Large-scale Learning for Visual Recognition" (ERC-2012-ADG-320559)
- "EGOVISION4HEALTH - Assessing Activities of Daily Living from a Wearable RGB-D Camera for In-Home Health Care Applications" (PIOF-GA-2012-328288)
- "Human Tracking and Trajectory Analysis for Social Behavior Understanding" (TIN2010-20177)
- "MONAMI - Mainstreaming on Ambient Intelligence" (IST-5-0535147)
- "HARMRES - Human Activity Recognition and Modelling in Real Scenarios" (TIN-2006-11044)
- "Human detection, tracking and authentication by facial biometrics and gait" (TIC2003-08382-C05-05)
- "IEYE - OBJECT TRACKING Development of a third generation video surveillance system for monitoring of intelligent environments" (PROFIT/IBK 02-263)
- "DGAGE System of third generation for access control and security by advanced computer vision techniques" (DGA GE DGA2002)

R&D Contracts with Companies or Private Funding Entities

- "3DHumansInAction: 3D Understanding of Humans in Action from Real-World Videos.", Amazon AARA gift 2018.
- "3DPose4Action: 3D Human Action Recognition from Monocular RGB Videos.", Amazon AARA gift 2017.
- "CIPGAL Learning system for parking control with a license plate recognition OCR, damage inspection in cars, and managing the number of available slots" (CIT-390000-2005-18)
- "PLATE Automatic plate recognition in an access-control car park" (OTRI 2003/0240)
- "Traceability of Spanish Ham using Computer Vision Techniques" (OTRI 2001/0479)

Presentations and Seminars

- "3D human pose detection: deep architectures and training data", invited speaker at journée CNRS GDR-ISIS on Visage, geste, action et comportement, Paris, December 2017.
- "Monocular 3D Human Pose Estimation: classification approaches and training data", LIRMM workshop , Montpellier, December 2016 ⋄ INRIA, Grenoble, December 2016.
- "Understanding Everyday Hands in Action From a Wearable RGB-D Sensor", CVPR Tutorial on First-person Visual Sensing: Theory, Models, and Application, June 2016.
- "Understanding Everyday Hands in Action From a Wearable RGB-D Sensor", journée CNRS GDR-ISIS Robotics, Paris, May 2016.
- "3D Hand Pose Detection in Egocentric RGB-D images", ECCV Workshop on Consumer Depth Camera for Computer Vision, Zurich, Sept. 2014 ⋄ INTEL Science and Technology Center For Visual Computing - Retreat, Monterey, CA, October 2014
- "Human pose recognition: from 3rd person to 1st person views", INRIA, Grenoble, Sept. 2014
- "Learning and Predicting Hand/Object Interactions", UC Irvine, USA, May 2014
- "Writing a successful MC proposal", Jornada Informativa Convocatorias 2013 de Acciones Marie Curie, Zaragoza, Spain, June 2013
- "Advances in Exemplar-based Monocular Human Body Pose Analysis: Modeling, Detection and Tracking", PhD Defense, Universidad de Zaragoza, Spain, June 2012 ⋄ Joint Research Center, Ispra, Italy, Oct 2012 ⋄ UC Irvine, USA, June 2013
- "Randomized Trees for Human Pose Detection", Oxford Brookes University, UK, May 2008 ⋄ I3A, Zaragoza, Spain, April 2008
- "Exploiting Spatio-Temporal Constraints for Robust 2D Pose Tracking", Oxford Brookes University, UK, October 2007 ⋄ ICCV Workshop on Human Motion - Understanding, Modeling, Capture and Animation, Rio, Brazil, Oct.2007
- "Probabilistic Spatio-Temporal 2D-Model for Pedestrian Motion Analysis in Monocular Sequences",CVC, Barcelona, Spain, June 2006 ⋄ AMDO, Andratx, Spain, July 2006 ⋄ Oxford Brookes University, UK, July 2007

PhD / M.Sc. Theses (co-)Supervised

PhD theses

- N. Chesneau. Learning to Recognize Actions with Weak Supervision. MSTII, Univ. Grenoble Alpes, February 2018.

MSc theses

- V. Gabeur, M.Sc. Thesis: Human body shape estimation from single images using convolutional neural networks. Univ. Toulouse III, France, September 2018.
- P. de Jorge. Deep Neural Networks for 3D body shape and pose prediction in real images. MSIAM, ENSIMAG, Univ. Grenoble Alpes, June 2017. (grade: 16.5/20)
- E. Le Roux. Learning action recognition from 3D poses. MSIAM, ENSIMAG, Univ. Grenoble Alpes, June 2017. (grade: 15.6/20)
- A. Gañán. Facial Expression Recognition in Video Sequences. Department of Electrical Engineering, Univ. of Zaragoza, July 2008. (grade: 9,5/10 - oral presentation at IbPRIA09)
- F. Cuq. Construction of Color Models for Human Figure Tracking in Video Sequences. Dep. of Electrical Engineering, Univ. of Zaragoza, Sept. 2005. (grade 9,3/10)
- D. Gaymu. Human Localization and Segmentation for Video-surveillance Applications. Dep. of Electrical Engineering, Univ. of Zaragoza, Sept. 2005. (grade 8,5/10)

Theses Examined

- P. Rodriguez, PhD Thesis: Towards Robust Neural Models for Fine-Grained Image Recognition. Univ. Autonoma de Barcelona, Spain, March 2019. Jury Member.
- F. M. Castro, Ph.D. Thesis: Gait Recognition from Multiple View-points. Univ. de Malaga, Spain, Dec. 2018. Jury member.
- A. H. Rasheed, M.Sc. Thesis: Deep Learning for 3D Human Forms. Univ. Grenoble Alpes, France, September 2017. External Reviewer.
- T-H. Pham, Ph.D. Thesis: Contact Force Sensing From Motion Tracking. Univ. de Montpellier, France, Dec. 2016. Jury member.
- M. Salas, Ph.D. Thesis: Scene Understanding for Mapping. Department of Computer Sciences, Univ. de Zaragoza, Spain, January 2016. External Reviewer.
- W. Gong, Ph.D. Thesis: 3D Motion Data aided Human Action Recognition and Pose Estimation. Univ. Autonoma de Barcelona, Spain, May 2013. Jury Member.

Languages

- **English:** full professional proficiency (2 years living in the U.S.A.) **French:** native speaker
- **Spanish:** bilingual proficiency. **German:** elementary proficiency. **Greek:** very basic knowledge.

Professional Activities: Academic Service, Contributions, Membership

- **Session Chair** at CVPR 2016, 2018.
- **Organizer** of the 1^{st} CVPR Workshop on "Human Pose, Motion, Activities and Shape in 3D (3D HUMANS 2018)" , Salt Lake City, June 18th 2018.
- **Co-organizer** of the 3 editions of the CVPR Workshop on "Observing and understanding hands in action (HANDS)": HANDS 2015 in Boston, June 2015, HANDS 2016 in Las Vegas, July 2016 and HANDS 2017 in Venice, October 2017.
- **Funding Agency Reviewer:** Agence Nationale de la Recherche (ANR) 2017, 2018
- **Journal Reviewing:** IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), International Journal of Computer Vision (IJCV), Computer Vision and Image Understanding (CVIU), Image and Vision Computing, IEEE Transactions on System, Man and Cybernetics (SMC), Neurocomputing, IEEE Transactions on Human-Machine Systems, Robotics and Autonomous Systems, Machine Vision and Applications, Journal of Biomedical and Health Informatics, IEEE Robotics and Automation Letters, Big Data, IEEE Transactions on Cybernetics.
- **Program Committee Member:** Computer Vision and Pattern Recognition (CVPR) 2017, 2018, 2019, European Conf. on Computer Vision (ECCV) 2010, 2016, 2018, International Conf. on Computer Vision (ICCV) 2017, 2019, Neural Information Processing Systems (NIPS) 2016, 2017, 2018, International Conf. on Machine Learning (ICML) 2018, British Machine Vision Conf. (BMVC) 2017, 2018, Intelligent Robots and Systems (IROS) 2017, International Conf. on Pattern Recognition (ICPR) 2010, European Conf. on Mobile Robots (ECMR) 2013.
- **Workshop Program Committee:** ICCV Workshop on Wearable Computer Vision Systems (WCVS) 2013. CVPR Workshop on Egocentric (First Person) Vision 2016. ECCV Workshop PeopleCap 2018: capturing and modeling human bodies, faces and hands.

Applied Research - Results and Initiatives

- **ECCV 2018 Demo**. LCR-Net++: Multi-person 2D and 3D Pose Detection in Natural Images with Philippe Weinzaepfel, Xavier Martin and Cordelia Schmid
- **CVPR 2018 Demo**. Real-time LCR-net: detecting multi-person 2D and 3D poses in real-world images with Philippe Weinzaepfel, Xavier Martin and Cordelia Schmid
- **CVPR 2015 Demo**. Real-time 3D Pose Recognition from a Chest-mounted RGB-D Camera. with James. S. Supancic and Deva Ramanan

- **Development of the real-time Proof of Concept demonstrator:** Real Time Human Pose & Motion Capture, and Analysis (HPMCA), supervised by Prof. Philip H.S. Torr, funded by The Research and Business Development Office (RBDO) at Oxford Brookes University (UK), Reference: 289/32/23, delivered: 1^{st} prototype working with a Sony EyeToy camera (July 2010), 2^{nd} prototype working with a SR4000 Time-of-Flight camera (Oct 2010).
- Attendance to a **2 day course** on "Commercialization of IP" and "How to Start a Successful Business", speaker: Prof. Russell Smith, Oxford Brookes University, April 2010
- **Preparation of the grant proposal:** "Track4Rehab" entitled "Robust and Real-time Pose Tracking for In Home Motor Rehabilitation using Online Learning" submitted to the Marie Curie FP7-PEOPLE-2009-IEF call, with Professor Philip H. S. Torr and Prof. Helen Dawes, Oxford Brookes University, March-August 2009, score: 84.30% (1^{st} in the reserve list of the ENG panel) .
- **Development of a prototype** for car license plate recognition, successfully transferred to the company DeInta (http://www.deinta.com/pdf/cap.pdf), Zaragoza, Spain, 2004 .

Press (Spanish)

- "Grégory Rogez (CV Lab) premiado por la AERFAI", Boletin del Instituto de Investigación en Ingeniería de Aragón, no 33, pp 2, May-Jun 2013.
- "El camino hacia la excelencia en investigación", Blog del I3A sobre actualidad científica e I+D+i, http://i3a.unizar.es/blog/2013/06/26/

Technical Skills

- Markup and Programming Languages: MATLAB/Octave (expert), Python (proficient), C/C++ (prior experience), Java (prior experience), Latex (expert), HTML (proficient)
- IDE: PyCharm, Jupyter, Visual Basic, Visual Studio, Qt Creator.
- Applications: MS Office, Photoshop, Gimp, Virtual Dub, Autocad, Labview, Blender, Maya, Poser, Dependency Walker, Doxygen, Process Explorer.
- Experience with specialised hardware and software: Machine learning, deep learning and computer vision libraries and frameworks (PyTorch, Caffe, OpenCV, Spider, stprtool, SVM-light, etc.), 3D Computer Graphics (VTK), version Control (SVN, Git), remote access (SSH), Condor cluster, cameras (Intel Creative, PlayStation Eye, Depth/ToF cameras, Infrared detector, Dome), Vicon Motion Capture.