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### Profile

A Postdoctoral Research Fellow within the V-SENSE project, Trinity College Dublin and Co-founder of Volograms Ltd., an innovative AR/VR technology spin-off from the Trinity College Dublin, University of Dublin, Ireland. Five years' extensive R&D experience in Computer Vision and Machine Learning at international Academic institutions and Corporations. His research interests span the areas of Computer Vision and Deep Learning for VR and AR application, in particular deep learning for object segmentation/matting and dynamic 3D reconstruction for volumetric video.

### Education

- Ph.D. in Computer Science  
**Humboldt University of Berlin, Berlin, Germany**  
📅 Jul 2012 - Apr 2017
- M.Sc. in Geodesy and Geoinformation Science  
**Technical University of Berlin, Berlin, Germany**  
📅 Oct 2009 - Apr 2012
- B.Sc. in Geomatics and Geoinformatics Engineering  
**Athens University of Applied Sciences, Athens, Greece**  
📅 Sep 2005 - Sep 2009

### Languages

- Greek (native)
- English (fluent)
- German (intermediate)

### Computer Skills

- Operating Systems ..... Unix, Windows
- Programming Languages ..... C/C++, Python
- Script Languages ..... MATLAB
- C++ Libraries ..... Boost, OpenMP
- Optimization/Maths Frameworks...Ceres, Eigen, FADBAD
- Computer Vision Frameworks..... OpenCV, MVS, MVG, PCL
- AR Frameworks ..... MetaioSDK
- Revision Control Systems ..... Git, SVN
- Build Systems: ..... CMake
- Computer Graphics APIs..... OpenGL (basic)
- User Interfaces..... Qt5 (basic)
- Robotics Frameworks..... ROS (basic)
- Unit Testing: ..... Google Tests
- Typesetting: ..... LaTeX

### Memberships

- Institute of Electrical and Electronics Engineers (IEEE)
- The British Machine Vision Association (BMVA)
- The Computer Vision Foundation (CVF)
- International Society for Photogrammetry and Remote Sensing (ISPRS)

### Certifications

- Security City: Bringing Information Security to Life  
**Siemens AG, License: Z001NVMP**  
📅 May 2015

### Work Experience

- Co-Founder  
**VOLOGRAMS, Ltd**  
📅 Jan 2018 - Present  
A spin-off company from Trinity College Dublin, working on generating real-world content for VR/AR applications.
- Postdoctoral Research Fellow  
**TRINITY COLLEGE DUBLIN** **Graphics Vision and Visualisation Group**  
An integral research member of the project "V-SENSE – Extending Visual Sensation through Image-Based Visual Computing".
  - Conducting research in the areas of 3D reconstruction, human segmentation/matting
  - Assisting in the organisation of lectures/demos
  - Supervising Master and PhD candidates📅 Sep 2016 - Present
- Software Engineer  
**SIEMENS AG, Berlin** **Mobility Division, Technology & Innovation**
  - Developed 3D object recognition algorithms related to AR products
  - Developed SLAM algorithms for visual odometry📅 Mar 2015 - Jun 2016
- Research Associate  
**HUMBOLDT-INNOVATION GmbH** **Computer Vision Group**
  - 3D reconstructions from 360 cameras📅 Dec 2015 - Jun 2016
- Research Associate  
**HUMBOLDT UNIVERSITY OF BERLIN** **Computer Vision Group**
  - Developed 3D human recognition and motion algorithms for the purpose of monitoring, tracking and classifying people's behavior in a train wagon
  - Participated in the software development of the visual programming environment Cassandra; a Hella Aglaia Mobile Vision product
  - Implemented a real time tracking system for detection and tracking of pedestrians in the main campus of the Charité university hospital
  - Developed multi-sensor RGB & RGBD human recognition algorithms
  - Implemented a large bundle adjustment system for fusing data from multiple structured light sensors and stereo cameras
  - Calibrated various RGB and RGBD sensors for specific requirements📅 Jul 2012 - Jun 2016

## Training

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- From Representation to Action and Interaction  
International Computer Vision Summer School (ICVSS), Sicily, Italy  
📅 Jul 2017
- Drones applied to Cultural Heritage and Archaeology  
International Summer School, Pontignano, Siena, Italy  
📅 Sep 2013

## Academic Teaching Experience

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### Trinity College Dublin

- Computer Vision (CSGV1; Michaelmas Term 2017 – 2018)  
Instructors: Prof. Dr. Aljosa Smolic
- Augmented Reality (CS7034; Hilary Term 2016 – 2017)  
Instructors: Prof. Dr. Aljosa Smolic
- Computer Vision (CS4053; Michaelmas Term 2016 – 2017)  
Instructors: Dr. Kenneth Dawson-Howe
- Vision Systems (CS7008; Michaelmas Term 2016 – 2017)  
Instructors: Dr. Kenneth Dawson-Howe
- Computer Graphics (CS4052; Michaelmas Term 2016 – 2017)  
Instructors: Dr. Carol O'Sullivan

### Humboldt University of Berlin

- Stereobildverarbeitung (32313; WT 2012 – 2016), Instructors: Prof. Ralf Reulke, Martin Misgaiski-Haß

## Academic Services

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### Reviewer (Journals)

- IEEE Image Understanding Journal
- ISPRS Journal of Photogrammetry and Remote Sensing
- EURASIP Journal on Image and Video Processing

### Reviewer (Conferences)

- ISPRS 2016
- VISAPP 2016

### Session Chair

- VISAPP 2015/2016

### Invited Speaker

- 3DCamp Dublin & Irish VR Meetup, 2017
- Beuth Hochschule, School of Applied Sciences, 2016

### Guest Class Lecturer

- Athens University of Applied Sciences, 2017
- Technical University of Berlin, 2016
- Athens University of Applied Sciences, 2014

### Supervising Students

- Sebastian Lutz (PhD Candidate), Trinity College Dublin
- Corentin Chéron (Master Student), Trinity College Dublin

## Research Grants

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2017 NVIDIA Corporation, GPU Grant, Tesla XP GPU card

📅 July 2017

## Honours/Awards

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- Won the Art and Design Competition 2017 price award from the NEM Summit for our work "Virtual Play: after Samuel Beckett", Madrid, Spain
- Won the reading group competition at the ICVSS 2017 with the paper "Inspiring Computer Vision System Solutions", which is grounded on the seminar 3D scanning work "The Digital Michelangelo Project"
- Distinction Award in Piano Performance, Hellenic Ministry of Culture, 2008
- Piano Performance Scholarship for the Academic year 2003 – 2004, NEFELI Conservatory, Athens, Greece

## Personal Activities

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- Piano soloist (MA in Performance) in Classical Piano, NEFELI Conservatory, Athens, Greece, 2008
- Degree in Classical Harmony (BA in Classical Composition), NEFELI Conservatory, Athens, Greece, 2006

## Publications

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### Journals

#### **Leave a Trace - A People Tracking System Meets Anomaly Detection**

D. Rueß, K. Amliianitis, N. Deckers, M. Adduci, K. Manthey, R. Reulke  
IJMA – The International Journal of Multimedia & Its Applications, 2017.

### Conference Proceedings

#### **Virtual Play in Free - Viewpoint Video: Reinterpreting Samuel Beckett for Virtual Reality**

N. O'Dwyer, N. Johnson, E. Bates, R. Pages, J. Ondrej, K. Amliianitis, D. Monaghan, A. Smolic  
VARCI – Workshop on Virtual Reality and Augmented Reality meet Creative Industries (in Proceedings), 2017.

#### **Human Recognition in RGBD combining Object Detectors and Conditional Random Fields**

K. Amliianitis, R. Hänsch, R. Reulke  
VISAPP – International Conference on Computer Vision Theory and Applications, 2016.

#### **Towards a 3D Pipeline for Monitoring and Tracking People in an Indoor Scenario using multiple RGBD Sensors**

K. Amliianitis, M. Adduci, R. Reulke  
VISAPP – International Conference on Computer Vision Theory and Applications, 2015.

#### **A Quality Evaluation of Single and Multiple Camera Calibration Approaches for an Indoor Multi Camera Tracking System**

M. Adduci\*, K. Amliianitis\*, R. Reulke (\*equal contribution)  
ISPRS – International Society for Photogrammetry and Remote Sensing, 2014.

#### **Calibration of a Multiple Stereo and RGBD Camera System For 3D Human Tracking**

M. Adduci, K. Amliianitis, R. Reulke  
ISPRS – International Society for Photogrammetry and Remote Sensing, 2014.

### Technical Reports

#### **Inspiring Computer Vision System Solutions**

J. Zilly, A. Boyarski, M. Carvalho, A. A. Abarghouei, K. Amliianitis, A. Krasnov, M. Mancini, H. Gonzalez, R. Spezialetti, C. S. Prez, H. Li  
arXiv preprint, July 2017.

#### **Leave a Trace - A People Tracking System Meets Anomaly Detection**

D. Rueß, K. Amliianitis, N. Deckers, M. Adduci, K. Manthey, R. Reulke  
arXiv preprint, July 2017.

### Workshops

#### **3D Detection and Tracking in an Indoor Environment**

K. Amliianitis, M. Adduci, R. Reulke  
3D – NordOst, 2014.

#### **3D personenerkennung und verfolgung mit stereo und RGBD kameras**

M. Adduci, K. Amliianitis, M. Misgaiski-Haß, R. Reulke  
3D – NordOst, 2013.

### Theses - Dissertations

#### **3D Real Time Object Recognition**

Doctoral Dissertation, Humboldt Universität zu Berlin.  
Supervisor: Prof. Dr. rer. nat. Ralf Reulke  
📅 2017

#### **The Use of Multi Resolution Active Shape Models for Face Detection**

Master Thesis, Technische Universität Berlin.  
Supervisor: Prof. Dr.-Ing. Olaf Hellwich  
📅 2012

#### **3D Reconstructions from Uncalibrated Image Pair**

Bachelor Thesis (in Greek), Athens University of Applied Sciences.  
Supervisor: Prof. Elli Petsa  
📅 2009