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 www.volograms.com

## EXPERTISE

### Entrepreneurial Activity

Raising Startup Venture Capital  
 Proposals for EU Research Grants  
 Operations Management  
 Development of University spin-offs  
 Filing of Patents & Trademarks

### AR/VR Technology

Virtual & Augmented Reality  
 Volumetric Video  
 3D Reconstructions  
 Video Object Segmentation  
 Machine & Deep Learning  
 Scientific Paper Reviewer in VR/AR

## EDUCATION

### PhD (Dr. rer. nat.) Computer Science

Research focus: Computer Vision & Deep Learning  
 Humboldt University of Berlin | 12/2012 – 03/2017

### MSc Geodesy & Geoinformation Science

Disciplined orientation: Computer Vision  
 Technical University of Berlin | 10/2009 – 03/2012

### BSc Geomatics & Geoinformatics Engr.

Disciplined orientation: Photogrammetry  
 Athens University of Applied Sciences | Greece  
 09/2005 – 09/2009




### M.A. Classical Piano Performance (Soloist)

Nefeli Conservatory | Athens • Greece | 06/2008





### B.A. Music Theory & Composition

Nefeli Conservatory | Athens • Greece | 06/2006

## LANGUAGES

 Greek | Native  
 English | Fluent  
 German | Intermediate

## SPORTS • INTERESTS • HOBBIES

 Swimming / 10K Road Runner / Paddle Tennis  
 Classical Piano Performance  
 Travel & Cultural trips  
 Building Jigsaw Puzzles

## SUMMARY

4+ years international entrepreneurial experience in a university spin-off deep tech company, VOLOGRAMS for Augmented / Virtual Reality (AR / VR) applications, propelled to global commercialization, coupled with 7+ years' applied R&D and innovation in Computer Vision & Deep / Machine Learning. Experience in successfully raising €2.35m Startup Venture Capital, acquiring €320K+ in EU research grants, encountering operational & commercialization challenges. Published numerous Scientific research papers in top-tier international conferences & journals. Public speaker, Scientific Paper Reviewer and occasional opinion writer in related fields.

## PROFESSIONAL EXPERIENCE

### Co-founder, COO & BOD Member

VOLOGRAMS Ltd | Dublin – Ireland | 01/2018 – present

*A Virtual & Augmented Reality Technology Company, startup and spin-off venture from Trinity College Dublin, with a mission to bring holograms of real humans to all consumers.*

### CHIEF OPERATIONS OFFICER | 09/2019 – present

- Involved in raising €1.5m seed capital from VC & Enterprise Ireland.
- Successfully raised €326K through national & EU research grants
- Developed the Company's Intellectual Property (IP) strategy
- Filed 2 patents and trademark rights for Europe and USA
- Successfully recruited, primarily international employees, with a view to strengthen diversity for innovation, enhance the company's global presence and culture. Developed a clear on-boarding process

### CHIEF SCIENTIFIC OFFICER | 05/2018 – 08/2019

- Involved in raising €850k pre-seed capital from VC & Enterprise Ireland
- Restructured Volograms' backend API and set up programming standards & procedures

### Postdoctoral Research Fellow

TRINITY COLLEGE DUBLIN | Ireland | 09/2016 – 05/2018

Graphics Vision & Visualization Group

*Member of the research project "V-SENSE "Extending visual Sensation through Image-based Visual Computing", led by Prof. Aljosa Smolic. Responsible for R&D of natural image matting & 3D reconstruction for volumetric video.*

- Successfully published scientific papers in top tier conferences / journals on AR/VR technologies
- Involved in the development of a mature 3D prototype system, used in several application examples and creative experiments
- Involved in the creation of a patent – method & device for creating a 3D model

### Software Engineer

SIEMENS AG | Berlin • Germany | 03/2015 – 06/2016

Mobility Division, Technology & Innovation

Responsible for the development of 3D Object recognition algorithms for Augmented Reality Products to be used for robustly detecting & recognizing a variety of objects in a Siemens Vectron Locomotive, from cameras embedded in different devices, such as tablets and mobile phones.

### Research Associate

HUMBOLDT INNOVATION GmbH | Berlin • Germany | 12/2015 – 06/2016

Computer Vision Group

Responsible for correcting systematic errors of a static camera through bundle adjustment

### Research Associate

HUMBOLDT UNIVERSITY OF BERLIN | Germany | 07/2012 – 06/2016

Computer Vision Group

Involved in R&D, as well as critical projects in the field of Computer Vision & Machine Learning, leading towards a PhD.

**RESEARCH GRANTS**

- VOLOGRAMS @ **Innovative Volumetric Capture & Editing Tools for Ubiquitous Storytelling** (INVICTUS PROJECT). EU grant 280K, HORIZON 2020: ICT-55 2018-2020 Interactive Technologies 2020 – 2022
- Tesla XP GPU card NVIDIA Corporation | 2017

**ACADEMIC SERVICES**

- Reviewer (Journals)
  - Computer Graphics Forum | 2020
  - IEEE Transactions on Multimedia | 2019
  - IEEE Image Understanding | 2017
  - EURASIP Image & Video Processing | 2017
  - ISPRS Photogrammetry & Remote Sensing | 2016
- Reviewer (Conferences)
  - European Signal Processing Conference | 2018
  - International Society for Photogrammetry & Remote Sensing | 2016
  - International Conference on Computer Vision Theory and Applications | 2016
- Session Chair
  - International Conference on Computer Vision Theory and Applications | Rome | 27-29 / 02 / 2016
  - International Conference on Computer Vision Theory and Applications | Berlin | 11-14 / 03 / 2015

**TEACHING EXPERIENCE**

- Trinity College Dublin
  - Computer Vision (Module CSGV1/ACAD) 2016-2017
  - AR (Module CS7034/ACAD) 2016-2017
  - Comp. Vision (Module CS4053/ACAD) 2016-2017
  - Vision Systems (Module CS7008/ACAD) 2016-2017
  - Comp. Graphics (Module CS4052/ACAD) 2016-2017
- Humboldt University of Berlin
  - Stereo Vision Module 32313 - ACAD Winter terms 2012 - 2016

**PROGRAMMING COMPETENCES**

- Operating Systems .....Unix / Windows
- Programming Languages .....C / C++ / Python
- Script Languages .....MATLAB
- C++ Libraries .....Boost / OpenMP
- OPT / Math Framework .....Ceres / Eigen / FADBAD
- CV Frameworks .....OpenCV / MVS / MVG / PCL
- AR Frameworks .....MetaioSDK
- Revision Control Systems .....Git / SVN
- Build Systems .....CMake
- Unit Testing .....Google Tests
- Typesetting .....LaTeX

**TRAINING & CERTIFICATIONS**

- Overview and an in-depth analysis of the state-of-the art research in Computer Vision. **International Computer Vision Summer School** | Sicily | 09-15 / 07 / 2017
- Security City: Bringing Information Security to Life **Siemens AG, License: Z001NVMP** | Berlin | 05/2015
- Drones applied to Cultural Heritage & Archaeology **International Summer School** | Pontignano (Siena) 20-26 / 09 / 2013

**HONORS / AWARDS / MENTIONS**

- VOLOGRAMS "Top Virtual Reality Companies in Ireland (2021)" WELP MAGAZINE | 02/2021
- VOLOGRAMS "Top 100 Hot Startups to watch". **The Sunday Business Post Ireland** | 2018 / 2019 Best Journal Paper Award
- **Journal of Visual Comm. & Image Representation** 06/2019. Affordable Content Creation for Free-Viewpoint Video and VR/AR Applications
- Campus Company Recognition Award **Trinity College Dublin Innovation Awards** | 12/2018 VOLOGRAMS acknowledged by TCD for its innovative research & entrepreneurship.
- 1st Prize NEM Art & Design Competition **Art & Design Competition NEM Summit** | Madrid | 11/2017 "Virtual Play: After Samuel Beckett" V-Sense Trinity College
- 1st Prize Reading Group Competition **Inspiring Computer Vision System Solutions** | Italy 07/2017. Grounded on the seminar / workshop 3D scanning work "The Digital Michelangelo Project"
- Distinction in Piano Performance **Hellenic Ministry of Culture** | 06/2008
- Distinction in Music Theory & Composition **Hellenic Ministry of Culture** | 06/2006
- Piano Performance Scholarship **NEFELI Conservatory** | Athens • Greece | 2003/2004

**VOLUNTEER WORK**

- CAREER MENTOR **The Tipping Point in Education**  
Empower youth to connect with industry role models (mentors) to take their once-in-a-life time decision for their career
- BUSINESS MEMBER & ADVISOR **The Hellenic Community of Ireland**

**AFFILIATIONS**

- EC initiative for Extended Reality (**XR4ALL**)
- Institute of Electrical & Electronics Engineers (**IEEE**)
- The British Machine Vision Association (**BMVA**)
- Association for Computing Machinery (**ACM**)
- The Computer Vision Foundation (**CVF**)
- International Society for Photogrammetry & Remote Sensing (**ISPRS**)
- Greek Startup Universe (**GSU**)

## Publications

Citations 190 • h-index 5 • i10-index 3

| No. | Title  | Cited by | Year |
|-----|--|----------|------|
| 1.  | <b>Volograms &amp; V-SENSE Volumetric Video Dataset</b><br>R Pagés, K Amplianitis, J Ondrej, E Zerman, A Smolic<br>ISO/IEC JTC1/SC29/WG07 MPEG2021/m56767  | 1        | 2021 |
| 2.  | <b>Method and apparatus for generating a three-dimensional model</b><br>A Smolic, R Pages, J Ondrej, K Amplianitis, D Monaghan<br>US Patent App. 16/955,564  | 2        | 2020 |
| 3.  | <b>Forge: A volumetric video processing platform for everyone</b><br>Rafael Pagés, Jan Ondřej, Konstantinos Amplianitis, Nicolás Moreno de Palma, Aljosa Smolic<br>NEM SUMMIT 2020, June 30 – July 2, Dublin, Ireland  |          | 2020 |
| 4.  | <b>Jonathan Swift: Augmented Reality Application for Trinity Library's Long Room</b><br>N O'Dwyer, J Ondřej, R Pagés, K Amplianitis, A Smolić<br>International Conference on Interactive Digital Storytelling, 348-351   | 5        | 2018 |
| 5.  | <b>Beckett in VR: Exploring narrative using free viewpoint video</b><br>Néill O'Dwyer, Nicholas Johnson, Rafael Pagés, Jan Ondřej, Konstantinos Amplianitis, Enda Bates, David Monaghan, Aljoša Smolić<br>ACM SIGGRAPH 2018 Posters, 1-2   | 7        | 2018 |
| 6.  | <b>AlphaGAN: Generative adversarial networks for natural image matting</b><br>S Lutz, K Amplianitis, A Smolic<br>arXiv preprint arXiv:1807.10088   | 110      | 2018 |
| 7.  | <b>Affordable content creation for free-viewpoint video and VR/AR applications</b><br>R Pagés, K Amplianitis, D Monaghan, J Ondřej, A Smolić<br>Journal of Visual Communication and Image Representation 53, 192-201   | 39       | 2018 |
| 8.  | <b>Samuel Beckett in Virtual Reality: Exploring narrative using free viewpoint video</b><br>Néill O' Dwyer, Nicholas Johnson, Enda Bates, Rafael Pagés, Konstantinos Amplianitis, David Monaghan, Aljoša Smolic<br>Leonardo Journal (ISAST), 10  | 4        | 2018 |
| 9.  | <b>Virtual play in free-viewpoint video: Reinterpreting Samuel Beckett for virtual reality</b><br>Néill O'Dwyer, Nicholas Johnson, Enda Bates, Rafael Pagés, Jan Ondřej, Konstantinos Amplianitis, David Monaghan, Aljoša Smolić<br>2017 IEEE International Symposium on Mixed and Augmented Reality (ISMAR-Adjunct)   | 13       | 2017 |
| 10. | <b>Inspiring Computer Vision System Solutions</b><br>Julian Zilly, Amit Boyarski, Micael Carvalho, Amir Atapour Abarghouei, Konstantinos Amplianitis, Aleksandr Krasnov, Massimiliano Mancini, Hernán Gonzalez, Riccardo Spezialetti, Carlos Sampedro Pérez, Hao Liar<br>Xiv preprint arXiv:1707.07210, 2017   |          | 2017 |
| 11. | <b>Leave a Trace - A People Tracking System Meets Anomaly Detection</b><br>D Rueß, K Amplianitis, N Deckers, M Adduci, K Manthey, R Reulke<br>The International Journal of Multimedia & Its Applications (IJMA) 9, 13  |          | 2017 |
| 12. | <b>Human Recognition in RGBD combining Object Detectors and Conditional Random Fields</b><br>K Amplianitis, R Hänsch, R Reulke<br>International Conference on Computer Vision Theory and Applications (VISAPP)   | 1        | 2016 |
| 13. | <b>Towards a 3D Pipeline for Monitoring and Tracking People in an Indoor Scenario using Multiple RGBD Sensors.</b><br>K Amplianitis, M Adduci, R Reulke<br>International Conference on Computer Vision Theory and Applications (VISAPP)  | 1        | 2015 |
| 14. | <b>A Quality Evaluation of Single and Multiple Camera Calibration Approaches for an Indoor Multi Camera Tracking System.</b><br>M Adduci, K Amplianitis, R Reulke<br>International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences   | 1        | 2014 |
| 15. | <b>Calibration of a multiple stereo and RGB-D camera system for 3D human tracking</b><br>K Amplianitis, M Adduci, R Reulke<br>ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-3/W1, 2014 EuroCOW 2014, the European Calibration and Orientation Workshop, 12-14 February 2014, Castelldefels, Spain | 6        | 2014 |
| 16. | <b>3D Object Detection and Tracking in an Indoor Environment</b><br>K Amplianitis, M Adduci, R Reulke<br>Anwendungsbezogener Workshop zur Erfassung, Modellierung, Verarbeitung und Auswertung von 3D-Daten  |          | 2014 |
| 17. | <b>3D Personenerkennung und Verfolgung mit Stereo-und RGB-D Kameras</b><br>M Adduci, K Amplianitis, S Bodas, M Misgaiski-Haß, R Reulke<br>Humboldt-Universität zu Berlin, Institut für Informatik, Computer Vision   |          | 2014 |