

Dr. Konstantinos A. Tsintotas

<http://robotics.pme.duth.gr/ktsintotas/>

Email : ktsintot@pme.duth.gr

Phone : (+30) 254 1079 359

EDUCATION

- **Democritus University of Thrace** Xanthi, Greece
Doctor of Philosophy in Robotics April 2016 – July 2021
- **School of Pedagogical and Technological Education** Kozani, Greece
Certificate of Pedagogical and Teaching Competence October 2015 – June 2016
- **Technological Education Institute of Western Macedonia** Kila Kozanis, Greece
Master of Science in Mechatronics October 2013 – February 2015
- **Technological Education Institute of Chalkida** Phachna, Greece
Bachelor of Science in Automation Engineering October 2005 – December 2010
- **The University of Michigan** Ann Arbor, United States of America
Certificate of Competency in English May 2003

ACADEMIA

- **International Hellenic University** Serres, Greece
Adjunct Assistant Professor February 2023 - July 2023
- **International Hellenic University** Katerini, Greece
Adjunct Lecturer February 2022 - July 2022

RESEARCH

- **Democritus University of Thrace** Xanthi, Greece
Postdoctoral Researcher September 2021 - present
- **Democritus University of Thrace** Xanthi, Greece
Researcher and Teaching Assistant February 2016 - July 2021
- **Aristotle University of Thessaloniki** Thessaloniki, Greece
Researcher November 2018 - October 2020
- **Zalikas – Liontas construction company** Katerini, Greece
Automation Engineer March 2015 - August 2016
- **COOPER Industries - Menvier Univel Ltd** Korinos, Greece
Automation Engineer (Internship) June 2009 - November 2009

SKILLS

- **Technical:** Computer vision, electronics, data analysis & visualization.
- **Programming:** Matlab, Python, HTML, Ladder.
- **Soft:** Analytical & critical thinking, creative, productive, team player.

PROJECTS

- **“Wearable systems of personal protection, health and safety with operational application in security positions (SafeIT), T2EDK-01862”**. Co-funded by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship, and Innovation, under the call RESEARCH - CREATE - INNOVATE.
- **“Multirole Portable UAS (MPU RX4), T1EDK-00737”**. Co-funded by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship, and Innovation, under the call RESEARCH - CREATE - INNOVATE.
- **Enhancement of biodiversity through the sustainable management and protection of the rare habitats of Nestos and Arda and the Rhodope Mountains (Wild life for ever)**. Co-funded by the European Regional Development Fund and by national funds of the countries participating in the Interreg V-A “Greece-Bulgaria 2014-2020” Cooperation Programme.

- **Autonomous Vehicle Emergency Recovery Tool (AVERT), FP7-SEC-2011-1-285092.** Funded by the European Commission - Information & Communication Technologies.
- **Energy upgrade of Kontariotissa’s high school.**

PUBLICATIONS

• Books

- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Online Appearance-Based Place Recognition and Mapping: Their Role in Autonomous Navigation.” *In Springer tracts in advanced robotics, volume 133.* Springer Cham.

• Book Chapters

- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Visual place recognition for simultaneous localization and mapping.” *In: Romil Rawat, Sumit Dhariwal, Sudhir Kumar Rathi, Bhagwati Garg, Shrikant Telang, Mukesh Chouhan (editors) Autonomous Vehicle- An Intelligent Algorithm of Computing.* IGI Global.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Open challenges and conclusion.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 97 - 111. Springer Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Modest-vocabulary loop-closure detection with incremental bag of tracked words.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 71 - 96. Springer Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Dynamic places’ definition for sequence-based visual place recognition.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 55 - 69. Springer Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Probabilistic appearance-based place recognition through hierarchical mapping.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 45 - 54. Springer Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “Benchmarking.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 35 - 43. Springer Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “The revisiting problem in simultaneous localization and mapping.” *In: Online appearance-based place recognition and mapping. Springer tracts in advanced robotics, vol 133,* pages: 1 - 33. Springer Cham.
- **Konstantinos A. Tsintotas**, Panagiotis Giannis, Loukas Bampis and Antonios Gasteratos: “Appearance-based loop closure detection with scale-restrictive visual features.” *In: Tzovaras Dimitrios, Giakoumis Dimitrios, Vincze Markus, Argyros Antonios (editors) Computer vision systems,* pages: 75 - 87. *International conference on computer vision systems (ICVS), 2019.* Patras, June 2018, pages: 580 – 587. *Lecture notes in computer science,* volume 11754. Springer, Cham.
- **Konstantinos A. Tsintotas**, Loukas Bampis, Stelios Rallis, and Antonios Gasteratos: “SeqSLAM with bag of visual words for appearance based loop closure detection.” *In: Aspragathos Nikos, Koustoumpardis Panagiotis, Moulianitis Vassilis (editors) Advances in service and industrial robotics,* pages: 580 – 587. *International conference on robotics in Alpe-Adria-Danube Region (RAAD), 2018.* Patras, June 2018, pages: 580 – 587. *Mechanisms and Machine Science,* volume 67. Springer, Cham.

• Journal Articles

- **Konstantinos A. Tsintotas**, Loukas Bampis, Anastasios Taitzoglou, Ioannis Kansizoglou, Pavlos Kaparos, Chris Bliamis, Kyros Yakinthos and Antonios Gasteratos: “The MPU RX-4 project: Design, electronics and software development of a geofence protection system for a fixed-wing VTOL UAV,” *Transactions on instrumentation and measurement (IEEE), 2023.*
- **Konstantinos A. Tsintotas**, Loukas Bampis and Antonios Gasteratos: “The revisiting problem in simultaneous localization and mapping: A survey on visual loop closure detection,” *Transactions on intelligent transportation systems (IEEE),* pages: 1-25, 2022.
- Ioannis Kansizoglou, Evangelos Misirlis, **Konstantinos A. Tsintotas**, and Antonios Gasteratos: “Continuous emotion recognition for long-term behavior modeling through recurrent neural networks,” *Technologies (MDPI),* volume 10, number 3, pages: 59, 2022.

- Shan An, Haogang Zhu, Dong Wei, **Konstantinos A. Tsintotas**, and Antonios Gasteratos: “Fast and incremental loop closure detection with deep features and proximity graphs,” *Journal of field robotics (Wiley)*, volume 39, number 4, pages:473-493, 2022.
- Shan An, Xiajie Zhang, Dong Wei, Haogang Zhu, Jianyu Yang, and **Konstantinos A. Tsintotas**: “FastHand: Fast hand pose estimation from a monocular camera,” *Journal of systems architecture (Elsevier)*, volume 122, number 2, pages: 102361, 2022. *Presented at the international conference on embedded software and systems (ICCESS)*, December 2021, Shanghai, China, Online.
- **Konstantinos A. Tsintotas**, Loukas Bampis and Antonios Gasteratos: “Modest-vocabulary loop-closure detection with incremental bag of tracked words,” *Robotics and autonomous systems (Elsevier)*, volume 141, pages 103782, 2021.
- **Konstantinos A. Tsintotas**, Loukas Bampis and Antonios Gasteratos: “Tracking-DOSeqSLAM: A dynamic sequence-based visual place recognition paradigm,” *Computer vision (IET)*, volume 15, number 4, pages 258-273, 2021.
- **Konstantinos A. Tsintotas**, Loukas Bampis and Antonios Gasteratos: “Probabilistic appearance-based place recognition through bag of tracked words,” *Robotics and Automation Letters (IEEE)*, volume 4, number 2, pages 1737-1744, 2019. *Presented at the International Conference on Robotics and Automation (ICRA)*, May, 2019, Montreal, Canada.

• Conference Papers/Workshops

- **Konstantinos A. Tsintotas**, Vasileios Sevetlidis, Ioannis Tsampikos Papapetros, Vasiliki Balaska, Athanasios Psomoulis, and Antonios Gasteratos: “BK tree indexing for active vision-based loop-closure detection in autonomous navigation.” *In proceedings of the Mediterranean conference on control & automation (MED)*, June 2022, Greece, Athens, Hybrid conference, pages: 532-537.
- Tilemahos Mitroudas, **Konstantinos A. Tsintotas**, Nickolas Santavas, Athanasios Psomoulis, and Antonios Gasteratos: “Towards 3D printed modular unmanned aerial vehicle development: The landing safety paradigm.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, June 2022, Taiwan, Virtual conference, pages: 1-6.
- **Konstantinos A. Tsintotas**, An Shan, Ioannis Tsampikos Papapetros, Fotios K. Konstantinidis, Georgios Ch. Sirakoulis, and Antonios Gasteratos: “Dimensionality reduction through visual data resampling for low-storage loop-closure detection.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, June 2022, Taiwan, Virtual conference, pages: 1-6.
- Dong Wei, Shan An, Xiajie Zhang, Jiayi Tian, **Konstantinos A. Tsintotas**, Antonios Gasteratos, and Haogang Zhu : “Dual regression for efficient hand pose estimation.” *In proceedings of the IEEE international conference on robotics and automation (ICRA)*, May 2022, Philadelphia, USA, pages: 6423 – 6429.
- Shan An, Fangru Zhou, Mei Yang, Haogang Zhu, Changhong Fu, and **Konstantinos A. Tsintotas**: “Real-time monocular pedestrian depth estimation and segmentation on embedded systems.” *In proceedings of the IEEE/RSJ international conference on intelligent robots and systems (IROS)*, September 2021, Prague, Czech Republic, Online.
- Fotios K. Konstantinidis, Ioannis Kansizoglou, **Konstantinos A. Tsintotas**, Spyridon G. Mouroutsos, and Antonios Gasteratos: “The role of machine vision in industry 4.0: A textile manufacturing perspective.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, August 2021, New York, USA, Virtual conference.
- **Konstantinos A. Tsintotas**, Loukas Bampis, Anastasios Taitzoglou, Ioannis Kansizoglou, and Antonios Gasteratos: “Safe UAV landing: A low-complexity pipeline for surface conditions recognition.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, August 2021, New York, USA, Virtual conference. **Awarded as best student paper.**
- **Konstantinos A. Tsintotas**, Loukas Bampis, Shan An, George F. Fragulis, Spyridon G. Mouroutsos, and Antonios Gasteratos: “Sequence-based mapping for probabilistic visual loop closure detection.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, August 2021, New York, USA, Virtual conference.
- **Konstantinos A. Tsintotas**, Loukas Bampis, and Antonios Gasteratos: “DOSeqSLAM: Dynamic On-line sequence based loop closure detection algorithm for SLAM.” *In proceedings of the IEEE international conference on imaging systems and techniques (IST)*, October 2018, Krakow, Poland, pages 1 – 6.
- **Konstantinos A. Tsintotas**, Loukas Bampis and Antonios Gasteratos: “Assigning visual words to places for loop closure detection.” *In proceedings of the IEEE international conference on robotics and automation (ICRA)*, May 2018, Brisbane, Australia, pages: 5979 – 5985.