Anestis Zaganidis

Education

Period	**June 2016 — December 2019 (Viva date)**
Degree	**PhD in Computer Science**
Thesis Title	**Semantics in 3D point cloud registration**
University	**University of Lincoln** Lincoln, UK

Period	**August 2013 — 21 January 2016**
Degree	**Master of Science in Computer Science and Engineering**
Specialization	**Embedded and Intelligent Systems / Knowledge Discovery**
Thesis Title	**Self-organising Methods for Malfunction Prediction**
	data mining, machine learning, self-monitoring
University	**Högskolan i Halmstad** Halmstad, Sweden

Period	**September 2007 — 12 December 2012**
Degree	**Bachelor of Science in Technology Management**
Thesis Title	**Design and simulation of a Microcontroller**
	parallel computing, computer architecture
University	**University of Macedonia** Thessaloniki, Greece

Research experience

PhD in *Semantics in 3D point cloud registration*– June 2016 to Present
Lincoln Centre for Autonomous Systems- University of Lincoln

- Investigated approaches for point cloud registration in environments with poor geometric structure.
- Proposed the use of semantics to aid registration using Normal Distribution Transform.
- Results presented at IROS 2017, using hand-crafted features as low level semantics.
- Investigated high level semantics and deep learning techniques for semantic segmentation.
- Results published at Robotics and Automation Letters 2018 and presented at IROS 2018.
- Investigated the use of semantics in place recognition in outdoor environments. IROS 2019.

MSc in *Embedded and Intelligent Systems*. Thesis title *Self-organising Methods for Malfunction Prediction*
Objective of the project: Predict malfunctions in a fleet of vehicles, based on deviations of the sensor readings from the consensus.

- Building upon *Consensus Self-organized models for fault detection* (*COSMO*).
- Introduced the use of autoencoders, by life-long training and monitoring of the reconstruction error.

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Publications

Semantically Assisted Loop Closure in SLAM Using NDT Histograms.
A. Zaganidis, A. Zerntev, T. Duckett and G. Cielniak, in 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Macao, China, Nov. 2019.

Integrating Deep Semantic Segmentation Into 3D Point Cloud Registration.
A. Zaganidis, L. Sun, T. Ducket, G. Cielniak, in IEEE Robotics and Automation Letters, vol.3, no. 4, pp. 2942-2949, Oct. 2018

Semantic-assisted 3D Normal Distributions Transform for scan registration in environments with limited structure.
A. Zaganidis, M. Magnusson, T. Duckett and G. Cielniak, in 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, BC, 2017, pp. 4064-4069.

Work experience

Research engineer
Samsung AI Center Cambridge. May 2019 to present

Skills

Programming	Proficient	C, C++, Python, PCL, bash, Eigen, ROS, MPI, PyTorch, Tensorflow
	Intermediate	Assembly(PIC, AVR, Hexagon), PHP, Java Matlab, Visual Basic, SQL, Javascript
Operating Systems	Proficient	Linux Windows

Visiting researcher/ workshops

Visiting researcher at AASS, Orebro, Sweden	January – February 2017
Workshop at Norwegian University of life sciences	July 2017

Lab Demonstrator

Database Systems	September 2018 – January 2019
Autonomous Mobile Robots	January 2018 – May 2018
Image Processing	September 2016 – January 2017
Digital Systems and Applications	September 2010 – January 2011
Embedded Systems	February 2011 – June 2011

Repositories, Projects

SE-NDT – 3D Point cloud odometry using deep semantic segmentation.
Outcome of PhD, integrated into ROS. Own repository.
https://github.com/azaganidis/se_ndt

Antikythera Mechanism Simulation
Led by prof. M. Roumeliotis. Contributed to the project.
http://www.etl.uom.gr/mr/index.php?mypage=antikythera

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