Savvas A. Papaioannou

CONTACT

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EDUCATION

University of Oxford, UK
D.Phil (PhD) Degree in Computer Science
Jan. 2013 ∼ Sept. 2016 (expected)

- Thesis: *"Tracking Multiple Mobile Devices in CCTV-enabled Areas"*
- Advisors : Prof. Niki Trigoni & Prof. Andrew Markham

Yale University, USA
M.S. Degree in Electrical Engineering
Aug. 2011 ∼ Dec. 2012

- Area: Computer Engineering
- GPA: **Honors**
- Advisor : Prof. Andreas Savvides

Technical University of Crete, Greece
B.S. Degree in Electronic and Computer Engineering
Oct. 2006 ∼ Jul. 2011

- Thesis: *"Implementation of the Receptive Field Co-occurrence Histograms Algorithm for Object Detection on FPGA"*
- Area: Computer Architecture and Digital Systems
- GPA : **9.14 (out of 10), Excellent**.
- Class Ranking : **1st (out of approx. 100)**
- Advisor : Prof. Ioannis Papaefstathiou

RESEARCH INTERESTS

Mobile and context aware applications and systems, distributed computing, cyber-physical systems, sensing platforms and architectures, sensor networks, sensor fusion and networked embedded systems, indoor/outdoor localization, intelligent camera sensor networks, computer vision, multiple-target tracking systems, microprocessor-based embedded systems and software/hardware co-design, computer organization and architecture, hardware implementation using FPGAs.

FELLOWSHIPS AND AWARDS

University of Oxford, UK 2013 ∼ 2016

- Postgraduate (DPhil) Studentship funded by Laing O'Rourke.

Yale University, USA 2011 ∼ 2012

- Graduate Student Fellowship.

IEEE ESTIMedia, Finland 2012

- Best Paper Award at the 10th IEEE Symposium on Embedded Systems For Real-time Multimedia for the paper *"A novel low-power embedded object recognition system working at multi-frames per second"*.

Technical University of Crete, Greece 2011

- Graduated with highest GPA / Excelled receiving a diploma degree with a final grade of 9.14 (out of 10) - Technical University of Crete Commencement.

Technical University of Crete, Greece 2006, 2007, 2008, 2009, 2011

- Ranked 1st - Awarded Honorary Fellowship for the highest annual academic performance.

Technical University of Crete, Greece 2006, 2007, 2008

- Academic Performance Fellowship from the Greek National Scholarship Foundation (I.K.Y).

University admission exams, Cyprus 2004

- Scored the highest entrance mark in the Cyprus undergraduate admission exam for the Technical University of Crete, Greece.

RESEARCH EXPERIENCE

University of Oxford, UK
Research Student Jan. 2013 $\sim$ present

- Research in indoor/outdoor localization, multiple-target tracking, sensor fusion, wireless sensor networks and sensor systems. (Project: Agile Asset monitoring in construction sites).
- Collaborated with industry (Laing O'Rourke, construction company) to conduct experiments and evaluate the proposed algorithms and systems in large construction sites.
- Results have been published in the proceedings of top-tier conferences and journals (i.e. ACM SenSys).

Yale University, USA
Research Student Aug. 2011 $\sim$ Dec. 2012

- Research in sensing platforms and architectures for the next generation intelligent buildings and the Smart-Grid (Project: Yale Intelligent Buildings).
- Designed a system that is able to identify anomalies/faults in the power consumption behaviour of large buildings and learn power consumption patterns with the aim to improve the energy efficiency. Worked in projects like non-intrusive appliance load monitoring, power disaggregation and cyber-physical systems for elder care.
- Collaborated in research with leading experts in intelligent sensing for energy efficiency (Seldera LLC).

Technical University of Crete, Greece
Junior Researcher Aug. 2010 $\sim$ Jul. 2011

- Research in microprocessor embedded systems, machine vision, vision chips and hardware design using FPGAs.
- Designed and implemented a high-speed, low-power embedded object recognition system on FPGA which received the *"Best Paper Award"* in the 10th IEEE Symposium on Embedded Systems For Real-time Multimedia (ESTIMedia), 2012.

TEACHING EXPERIENCE

University of Oxford, UK
Teaching Assistant Hilary Term 2016

- Teaching assistant for the graduate course *"Mobile and Sensor Networks"* of

the Software Engineering Programme at Oxford University.

- Prepared the laboratory assignments, practicals and helped developing the lecture notes.
- Student satisfaction (score): 4.66 out of 5
- Student feedback: *"Not only the slides are well-designed, but the practices are suitably tailored that covers the diversity in the class. I can always gain more by trying the optional tasks of practicals. The TA is patient and helpful, he spends most of his time to explain very fundamental stuff that strengthened our understanding and our knowledge of the course."* and *"This is a really useful and practical course. Our TA, Savvas is also helpful each time when I have some problems during the practical part of the class, he can help me with my code immediately and finally solve them."*

University of Oxford, UK
Teaching Assistant Hilary Term 2016

- Teaching assistant for the graduate course *"Sensor and Actuator Networks"* of the Autonomous Intelligent Machines and Systems (AIMS) program at Oxford University.
- Prepared and redesigned laboratory material, led class discussions, implemented lab sessions, and marked the final assignments.

PUBLICATIONS

Journal Articles:

[J2] Savvas Papaioannou, Andrew Markham and Niki Trigoni. *"Tracking People in Highly Dynamic Industrial Environments "*, under review in IEEE Transactions on Mobile Computing (TMC), 2016. (**impact factor: 2.912**)

[J1] Antonis, Nikitakis, **Savvas Papaioannou** and Ioannis Papaefstathiou. *"A Novel Low-power Embedded Object Recognition System Working at Multi-frames Per Second"*, ACM Transactions on Embedded Computing Systems (TECS), 12(1s):33:1 – 33:20, Mar. 2013.

Conference Full Papers:

[C5] Savvas Papaioannou, Hongkai Wen, Zhuoling Xiao, Andrew Markham and Niki Trigoni. *"Accurate Positioning via Cross-Modality Training."*, In Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems (SenSys'15), pp. 239-251. ACM, 2015. (**acceptance rate: 20%**)

[C4] Hongkai Wen, Yiran Shen, **Savvas Papaioannou**, Winston Churchill, Niki Trigoni and Paul Newman. *"Opportunistic Radio Assisted Navigation for Autonomous Ground Vehicles."*, In Proceedings of the 11th International Conference on Distributed Computing in Sensor Systems (DCOSS'15), pp. 21-30. IEEE, 2015. (**acceptance rate: 23%**)

[C3] Savvas Papaioannou, Hongkai Wen, Andrew Markham and Niki Trigoni. *"Fusion of Radio and Camera Sensor Data for Accurate Indoor Positioning."*, In Proceedings of the 11th IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS'14), pp. 109-117. IEEE, 2014. (**acceptance rate: 26%**)

[C2] Antonis, Nikitakis, **Savvas Papaioannou** and Ioannis Papaefstathiou. *"A Novel Low-power Embedded Object Recognition System Working at Multi-frames Per Second"*, Embedded Systems for Real-time Multimedia (ESTIMedia), 2012 IEEE

10th Symposium on, Tampere, 2012, pp. 85-85. (**Best paper award**)

[C1] Savvides, A., **Papaioannou, S.**, Kartakis, S., Kohler, B., Demiris, G. and Thompson, H. *"SIPE: A Sensor Information Processing Engine for Wellness Management Applications"*, In Proceedings of the 5th ACM International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), 2012.

Posters:

[P2] Hongkai Wen, Sen Wang, Ronnie Clark, **Savvas Papaioannou** and Niki Trigoni. *"Efficient Visual Positioning with Adaptive Parameter Learning."*, In the 15th International Conference on Information Processing in Sensor Network (IPSN'16), 2016.

[P1] Savvas Papaioannou, Hongkai Wen, Zhuoling Xiao, Andrew Markham and Niki Trigoni. *"WiFi Sensors Meet Visual Tracking For An Accurate Positioning System."*, In the 11th European Conference on Wireless Sensor Networks (EWSN'14), 2014.

Thesis:

[T2] Savvas Papaioannou. *"Tracking Multiple Mobile Devices in CCTV-enabled Areas"*, PhD dissertation, University of Oxford. (**expected 2016**)

[T1] Savvas Papaioannou. *"Implementation of the Receptive Field Co-occurrence Histograms Algorithm for Object Detection on FPGA"*, Diploma thesis, Technical University of Crete, 2011.

MEMBERSHIP

Association for Computing Machinery

- Student member of ACM

Institute of Electrical and Electronics Engineers

- Student member of IEEE

SERVICE

Reviewer for the ACM Human-Computer Interaction conference (CHI 2014).

REFERENCES

Available, upon request.