

MARTIN ASEN OV

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EDUCATION

The University of Edinburgh

Sep 2017 - Present

Ph.D. in Robotics and Autonomous Systems

- Supervised by Dr. Subramanian Ramamoorthy and Dr. Kartic Subr

The University of Edinburgh

Sep 2016 - Aug 2017

MRes in Robotics and Autonomous Systems

- “Active sensing of spatiotemporal phenomena with a UAV”
- Supervised by Dr. Subramanian Ramamoorthy

The University of Edinburgh

Sep 2012 - May 2016

BSc (Hons) Artificial Intelligence and Computer Science

- “Dynamic model of interactions between orientation selective neurons in primary visual cortex”
- Supervised by Dr. Mark van Rossum

The University of California, Irvine

Sep 2014 - Jun 2015

International Exchange Student

- Favorite courses: Neural Networks and Deep Learning, Image Understanding, Computer Photography and Vision

PUBLICATIONS

M. Asenov, M. Burke, D. Angelov, T. Davchev, K. Subr, S. Ramamoorthy, ‘Vid2Param: Modelling of Dynamics Parameters from Video’, *IEEE Robotics and Automation Letters*, 2019

M. Asenov, M. Rutkauskas, D.T. Reid, K. Subr, S. Ramamoorthy, ‘Active Localization of Gas Leaks using Fluid Simulation’, *IEEE Robotics and Automation Letters*, presented at the *International Conference on Robotics and Automation*, 2019

M. Rutkauskas, **M. Asenov**, S. Ramamoorthy, D.T. Reid, ‘Autonomous multi-species environmental gas sensing using drone-based Fourier-transform infrared spectroscopy’, *Optics Express*, 2019

M. Asenov, ‘Active sensing of spatiotemporal phenomena with a UAV’, *MSc thesis*, The University of Edinburgh, 2017

M. Asenov, ‘Dynamic model of interactions between orientation selective neurons in primary visual cortex’, *BSc thesis*, The University of Edinburgh, 2016

C. Prijjic, **M. Asenov**, R. Wilson, J. Ortega, A. Hashemi, C. Pisuraj, A. Sargsyan, E. Wengert, ‘UAV Forge: Innovation for Personal Autonomous Systems’, *eScholarship*, University of California, Irvine, 2015

WORK EXPERIENCE

Amazon, PrimeAir

Graz, Austria, Oct 2018 - Dec 2018

Research Applied Scientist

- Worked on image segmentation from limited data using domain adaption

Defense Science and Technology Laboratory
Research Assistant

Edinburgh, UK, Nov 2017 - Sep 2018

- Collaboration with Heriot-Watt University, BMT and REDALERT, extending on the stage one project
- Data driven fluid simulation approach to characterize gas dynamics

Defense Science and Technology Laboratory
Research Assistant

Edinburgh, UK, Jan 2017 - Jun 2017

- Stage one funded project for detecting and mapping hazardous gases
- Collaboration with Heriot-Watt University, developing a UAV-mounted broadband spectrometer
- Implementing active sensing gas localization and mapping approaches based on Gaussian Processes

The University of Edinburgh
Tutor

Edinburgh, UK, Jan 2016 - May 2016

- Prepared materials and conducted 9 tutorials for Object-Orientated Programming
- Tutored the Advanced tutorials for the course, answered and helped with additional questions

Thales Avionics
Software Integration and Characterization Developer

Irvine, California, USA, Jul 2015 - Aug 2015

- Prepared students for the AIME and AMC math competitions
- Tutored the Advanced tutorials for the course, answered and helped with additional questions

Avid Academy for Gifted Youth
Math Tutor and Web Developer

Irvine, California, USA, Dec 2014 - May 2015

- Prepared students for the AIME and AMC math competitions
- Developed educational-focused web content management system using Django

Edinburgh University Students Association (EUSA)
Web Developer and IT Infrastructure Technician

Edinburgh, UK, April 2014 - Aug 2014

- IT support for more than 30 venues during Edinburgh Fringe, the largest art festival in the world
- Developed web content management system using Django, participated in all phases of websites development cycle
- Web server management, including recovering after our servers were compromised

Commquest Ltd
Junior Programmer

Sofia, Bulgaria, Jun 2013 – Jul 2013

- Developed crossword game for the iPhone using Objective-C
- Developed Android game using PhoneGap

PROJECTS

Convolutional Neural Networks

Apr 2015 - Jun 2015

- Developed neural network, able to extract 3D information from a single, unedited picture
- Trained on MPI Sintel Dataset, computer generated movie with ground truth available

UAV Forge: Innovation for Personal Autonomous Systems

Sep 2014 - Mar 2015

- Won Dean's Choice award
- Implemented path finding and obstacle avoidance using LIDAR, compressing data in octrees
- Team leader of the Artificial Intelligence/Computer Vision part of the team

Smart Data Hack

Feb 2013

- Won award for best UI
- Using a database from the Edinburgh Council our team created 3d interactive cube-map

Barclays Hackathon

Dec 2014

- Developed system similar to Google Now/Apple's Siri, but for phones without Internet connection
- Sending a text message with a question, a response with the answer is sent back

POSITIONS OF RESPONSIBILITY & EXTRA CURRICULAR

Resident Assistant

Sep 2015 - Aug 2018

- Organized more than 17 events per year, helped students with any academic or personal matter

Representational Roles

Sep 2012 - Current

Student Ambassador, Cohort Student Representative, Informatics School Representative, etc.

- Collecting students' feedback, organized Informatics Ceilidh for more than 200 students
- Toured potential informatics students

EdIntelligence Committee Member

Sep 2017 - Current

- Helped organizing events such as career fairs, lectures, movie screenings, etc.; maintaining website

Bulgarian National Dances

Sep 2013 - Current

- Took part in numerous semi-professional events: International Evening, 6th Syn Festival - Baharat — Spices of Eastern Music, 33th and 34th Annual University of Edinburgh Dance Performance, Concert 'Bulgarians from New Times', Concert for the Liberation Day of Bulgaria

Cycling

April 2019

- Cycled all around Scotland, took part in 256 miles bike ride with Mark Beaumont, raising 400£

AWARDS

Best case study, Edinburgh Robotics Annual Conference, 2019

Silver medal, BUCS Regatta, 2016

Gold medal, Scottish Boat Race, 2016

Principal's Go Abroad Fund, attended Open Source Conference in Hong Kong, 2016

Dean's Choice Award, UAV Forge: Innovation for Personal Autonomous Systems, 2015

Award for best UI, Smart Data Hack, 2013

TALKS

Robot Learning Using Physics-Informed Models

18th of October, 2019

Guest Lecture, Computer Graphics, The University of Edinburgh

Gaussian Processes. Theory and Applications

8th of March, 2017

Open Tech Meetup, Skyscanner, Edinburgh, UK

Gaussian Processes - when neural networks are not enough

29th of July, 2017

SoftUni, Sofia, Bulgaria

SKILLS

Languages	Bulgarian (native), English (fluent)
Leadership	One of the team leaders of more than 50 students for building autonomous quadcopter
Cross-cultural	Lived in UK, USA, Austria and Bulgaria. Travelled to more than 20 different countries

REFERENCES

Available upon request.