

MARTIN ANDREEV ASENOV

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EDUCATION

The University of Edinburgh

Sep 2017 - Present

Ph.D. in Robotics and Autonomous Systems

- “Online Robot Learning using Physics-Informed Models”
- 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

Sofia High Schol of Mathematics

Sep 2004 - Jun 2012

- Strong focus on Mathematics and Informatics

PUBLICATIONS

Vid2Param: Modelling of dynamics parameters from video, M. Asenov, M. Burke, D. Angelov, T. Davchev, K. Subr, S. Ramamoorthy, *IEEE Robotics and Automation Letters*, Vol 5(2): 414-421, 2020

Active Localization of Gas Leaks using Fluid Simulation, M. Asenov, M. Rutkauskas, D.T. Reid, K. Subr, S. Ramamoorthy, *IEEE Robotics and Automation Letters*, Vol 4(2): 1776-1783, 2019. Presented at the *IEEE International Conference on Robotics and Automation (ICRA)*, 2019

Autonomous Multi-species Environmental Gas Sensing using Drone-based Fourier-transform Infrared Spectroscopy, M. Rutkauskas, M. Asenov, S. Ramamoorthy, D.T. Reid, *Optics Express*, 2019

Active Sensing of Spatiotemporal Phenomena with a UAV, M. Asenov, *MSc thesis*, The University of Edinburgh, 2017

Dynamic Model of Interactions between Orientation Selective Neurons in Primary Visual Cortex, M. Asenov, *BSc thesis*, The University of Edinburgh, 2016

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

WORK EXPERIENCE

The University of Edinburgh

Teaching Assistant and Tutor

Sep 2019 - Dec 2019

Edinburgh, UK

- Prepared materials for 8 tutorials for Computer Graphics
- Guest Lecture on 'Graphics simulators in robotics'

Amazon, PrimeAir

Research Applied Scientist

Oct 2018 - Dec 2018

Graz, Austria

- Worked on image segmentation from limited data using domain adaption

Defense Science and Technology Laboratory

Research Assistant

Nov 2017 - Sep 2018

Edinburgh, UK

- 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

Jan 2017 - Jun 2017

Edinburgh, UK

- 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

Jan 2016 - May 2016

Edinburgh, UK

- 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

Jul 2015 - Aug 2015

Irvine, California, USA

- 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

Dec 2014 - May 2015

Irvine, California, USA

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

Edinburgh University Students Association

Web Developer and IT Infrastructure Technician

April 2014 - Aug 2014

Edinburgh, UK

- 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

Jun 2013 – Jul 2013

Sofia, Bulgaria

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

TALKS

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| Robot Learning Using Physics-Informed Models
<i>Guest Lecture, Computer Graphics, The University of Edinburgh</i> | 18th of October, 2019 |
| Gaussian Processes. Theory and Applications
<i>Open Tech Meetup, Skyscanner, Edinburgh, UK</i> | 8th of March, 2017 |
| Gaussian Processes - when neural networks are not enough
<i>SoftUni, Sofia, Bulgaria</i> | 29th of July, 2017 |

POSITIONS OF RESPONSIBILITY & EXTRA CURRICULAR

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| 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 |
| <i>Student Ambassador, Cohort Student Representative, Informatics School Representative, etc.</i> | |
| · Collecting students' feedback, organized Informatics Ceilidh for more than 200 students | |
| · Toured potential informatics students | |
| EdIntelligence Committee Member | Sep 2017 - Current |
| · Helped to organize events such as career fairs, lectures, movie screenings, etc.; maintaining the 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
- Gold Medal**, Scottish Boat Race
- Dean's Choice Award**, UAV Forge: Innovation for Personal Autonomous Systems
- Award for best UI**, Smart Data Hack
- Principal's Go Abroad Fund**, attended Open Source Conference in Hong Kong

SKILLS

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|-----------------------|---|
| Languages | Bulgarian (native), English (fluent) |
| Leadership | Team leader of more than 50 students for building an autonomous quadcopter |
| Cross-cultural | Lived in UK, USA, Austria and Bulgaria. Travelled to more than 20 countries |