Dimitrios Boursinos

Cell: (616) 668-0574 dimitris.boursinos@gmail.com dboursinos.github.io

EDUCATION

Vanderbilt University, Nashville TN

- PhD & MS, Electrical Engineering, GPA: 3.88/4 — Expected 2021
- Coursework: Cyber-Physical Systems; Detection & Estimation Theory; Network Security; Model Integrated Computing; Statistical Pattern Recognition; Design & Analysis of Algorithms; Advanced Real-Time Systems

University of Patras, Patras, Greece — 2016

- MS & BS, Electrical and Computer Engineering
- Coursework: Algorithms & Data Structures; Pattern Recognition; Natural Language Technology; Intelligent Control; Microcomputers; Automatic Control Systems; Digital Control Systems; Electrical Machines I & II; Design of Dynamical Systems; Adaptive Control; Robotic Systems; Adaptive Control; Nonlinear Control

WORK EXPERIENCE

Vanderbilt University, Research Assistant, Assured Autonomy — 2018-Present

- Developed robust and well-calibrated assurance monitors for machine learning components. Evaluated and tested in realistic autonomous driving scenarios.
- Reduced memory requirements and execution time of calibrated machine learning components by 99% (empirical evaluation in autonomous driving functions) without compromising accuracy by using low-dimensional appropriate representations of the original data.
- Developed robust visual perception for object detection on camera data for autonomous vehicle applications.
- Developed algorithms to compute appropriate significance levels regarding machine learning model decisions to reduce the times human intervention is necessary. Our evaluation showed more than 99.9% autonomous operation in all the test cases.
- Working on producing well-calibrated confidence metrics on sequential inputs where a partial information may be available on each frame.

Vanderbilt University, Teaching Assistant, Deep Learning — 2016-2017

- Experience teaching and communicating with students through weekly help sessions and replacing the professor when needed.

The City College of New York, Research Assistant, Biomedical Engineering — 2015

- Designed and built a cost efficient electromyograph computer interface that supports 44 channels and connects to a computer over USB to be used on a robotic arm for amputees
- Applied learning algorithms to make the prosthetic adapt to each user's muscle electrical signals.

University of Patras, Undergrad Research

- Designed and built a portable, non-contact ECG device intended as a low-cost, continuous monitoring solution for persons at risk of cardiac problems. (Diploma Thesis) — 2016
- Motion analysis of robotic swarm formations cooperating for a common goal. — 2015
- Literature research on pattern recognition methods for detection of forgery in paintings. — 2014

LANGUAGES, SKILLS and WORKFLOW

Python, C, C++, Tensorflow, Keras, Matlab, Simulink, Embedded Systems, Simulation Environments, RTOS, Linux, Git, Latex, Docker

AWARDS

- Best Paper Award at the IEEE Security & Privacy Conference — 2020
- 4th Place in the 22nd National Olympiad in Computer Science — 2010