Lyudmil Zhivkov Vladimirov, Meng, MIET
PhD Student
Department of Electrical Eng. & Electronics, Brownlow Hill, Liverpool, L69 3GJ
E-mail: sglvladi@liverpool.ac.uk, Mobile Phone: +44 (0) 770 4111711

SUMMARY

A penultimate year PhD student, co-funded by EPSRC and Denbridge Marine Ltd., through an iCASE award facilitated by the Smith Institute for Industrial Mathematics & System Engineering. Research relevant to the PhD focuses on quantifying the potential benefits of Monte-Carlo (Particle Filter) based algorithms, with specific emphasis on their applications within the field of Maritime Surveillance and Tracking. Past experiences include Research Assistant positions within the University of Liverpool, involving collaboration within research projects co-funded by the Defence Science and Technology Laboratory (Dstl).

EDUCATION

University of Liverpool

❖ **PhD Electrical Engineering and Electronics (Maritime Surveillance)**   **|2015 – 2019**

Project Title: *Co-development of Mathematical Models and Monte-Carlo Algorithms for Improved Detection of Targets in the Commercial Maritime Domain*

- The undertaken research aims to develop finely tuned non-linear/non-Gaussian stochastic models, which accurately describe the behaviour of both targets and clutter.
- Subsequent incorporation of such models into multi-target, Track-Before-Detect (TkBD) particle filtering context is expected to significantly increase detection and tracking performance, given a fixed sensor deployment.
- Further research involves investigation into advanced image processing and camera cross-cueing techniques for the development of a novel Automated Vessel Image Capturing system, which can control existing Pan-Tilt-Zoom CCTV cameras, to collect and accumulate high fidelity images of vessels in busy maritime environments. Such imagery data can then be used for identification/classification purposes, or even for behavioural analytics of ongoing traffic.

❖ **Meng (Hons) Computer Science and Electronic Engineering: 1ˢᵗ**   **|2011 – 2015**

Relevant Degree subjects studied included: Algorithmic Design, Information Theory and Coding, Knowledge Representation, Project Management, Software Engineering, Management of Design, Application Development with C++, Java Programming, Database Development, Multi-Agent Systems, Robotics and Autonomous Systems.

Final year project (MEng): *An air/ground multi-robot team*
This group project investigated the applications of Multi-Agent Systems concepts to a team of cooperating airborne and ground robots, to achieve the safe disposal of potentially hazardous objects from Lyudmil task involves researching into the implementation of multi-agent mapping, image tracking and navigation algorithms within ROS.

Third year project (BEng)**:** *Measurement of Periodic photodiode breakdown.*
This project involved the development and testing of an innovative type of quenching circuit, used in conjunction with a Single-Photon Avalanche Diode (SPAD), to achieve swift and effective single photon detection. The time dependent behaviour of the developed circuit has been examined and reported in the final Thesis.

RELEVANT EMPLOYMENT

University of Liverpool

❖ **Research Assistant** **| Summer 2015**

Collaborated on a project co-ordinated by the University of Liverpool and the Defence Science and Technology Laboratory (Dstl), which investigated how advanced Artificial Intelligence Systems can be utilised to assist in decision making procedures, in emergency situations, based on Big Data analytics. Responsibilities involved the development of data pre-processing algorithms for efficient search and classification of textual information as well as the detection of patterns, associations and outliers.

❖ **Research Assistant** **| Summer 2014**

Awarded with an EPSRC Vacation Bursary Programme Scholarship, which provided funds for the completion of a 10-week research project. The internship focused on the development and application of data mining algorithms on mainstream social media (e.g. as Facebook, Twitter and LinkedIn), with the optimal goal of identifying the different cohorts followed by recent University of Liverpool graduates.

TECHNICAL SKILLS

Programming Languages	Competence Level
C, C++, C#	High
Java	High
Python	High
SQL	High
MATLAB	High
HTML, CSS, JS/TS, PHP	High

Software/Frameworks	Competence Level
Robot OS (ROS)	High
Hadoop	High
Visual Studio 2008-2017	High
Eclipse IDE	High
MS Office	High
LaTex	High

Operating Systems	Where used	Competence Level
Windows 10/8/7/XP	Personal/Academic use.	High
Linux	Personal/Academic use.	High
Mac OS	Personal interest.	Medium

AWARDS/COMMENDATIONS

❖ **EPSRC, Industrial CASE Studentship** **| 2015-19**
("Industrial CASE provides outstanding students access to training, facilities and expertise not available in an academic setting alone…", "Students receive funding for a full EPSRC studentship for 4 years. Companies provide additional top up to the project of a minimum of a third of the EPSRC funding…")

❖ **EPSRC, Summer Vacation Bursary Programme Scholarship.** **| 2014**
("Up to 15 bursaries can be awarded annually by each University with EPSRC Doctoral Training Partnerships (DTPs)")

❖ **University of Liverpool, Sir Robin Saxby Prize** **| 2012**
("One prize awarded annually to the student on the MSc(Eng) programmes who has most distinguished him or herself in examinations and project work")

(References available upon request)