Marcel-Titus MARGINEAN

Highly experienced engineer and scientist with extensive knowledge in real-time software for unmanned aerial vehicles, networking, embedded devices, automation, advanced algorithms, distributed systems, computer vision, security, cryptography and robotics. Vast interdisciplinary knowledge, strong background in mathematics, ardent passion for technology, strongly driven by active curiosity to explore new fields and push upwards the boundaries of possible.

HISTORY

2008-Current: Textron Systems – **Principal Software Engineer**
- Company representative at Industry-Government Consortiums: ***Future Airborne Capability Environment*** and ***Sensors Open Systems Architecture***
- Design Architectures for Airborne Vehicle Specific Modules for UAVs
- Real-Time Ground Support Software for UAVs
- Algorithm for AV position estimation in GPS denied environments
- Software for UAV takeoff/landing using RTK-GPS

2004-2008: LRW Digital – **Software Engineer**
- Cryptographic Protocol for PIM synchronization between Mobile Device and Enterprise Infrastructure
- Encrypted Storage for Mobile Device
- Encrypted protocol for remote management of mobile devices

2003-2004: Smartpants Media – **Software Engineer**
- Embedded Linux Video Encoder and Broadcaster
- Infrastructure for Web access to Surveillance Video

1999-2003: Mastech – Software Consultant for Corning
- Mathematic Algorithm for optimal cable design
- Distributed System for Inventory Management

1993-1999: Romania & Sweden **– Software Engineer** and **IT Consultant**
- First commercial ISP in Alba County, Romania
- Replicator Algorithm for Distributed Database System
- Custom Software for Networking & Data Management

CONTACTS

e-mail: mtm@mezonix.com
web: http://www.mezonix.com

EDUCATION

Doctor of Science
Information Technology
2016 Towson University, USA
Dissertation: Distributed System for Domestic Robot Operation Using Computer Vision

Electrical Engineer – 5 Years advanced degree
1993 Polytechnic University of Timisoara, Romania
Major: Information Systems for Process Control
Thesis: Optimization of Flexible Manufacturing Lines Attended by Industrial Robots

Electro-Mechanic Technician
1987 Industrial School No. 1
Alba-Iulia, Romania

PUBLICATIONS

- **A Distributed Processing Architecture for Vision Based Domestic Robot Navigation.** Marcel-Titus Marginean and Chao Lu. International Conference on Computers, Communications and Systems; Nov 1 2013 Daegu University, Korea

- **A Multi-Paradigm Object Tracker for Robot Navigation Assisted by External Computer Vision**. Marcel-Titus Marginean and Chao Lu, ACM Conference on Research in Adaptive and Convergent Systems; October 6 2014 Towson, MD, USA

- **sDOMO – A Simple Communication Protocol for Home Automation and Robotic Systems.** Marcel-Titus Marginean and Chao Lu, IEEE International Conference on Technologies for Practical Robot Applications; May 12 2015 Boston, MS, USA

- **sDOMO communication protocol for home robotic systems in the context of the internet of things**. Marcel-Titus Marginean and Chao Lu, International Conference on Computer Science, Technology and Application; March 18 2016 Changsha, Hunan, China

- **Multi-Threaded Message Dispatcher Framework for Mission Critical Applications**. Marcel-Titus Marginean and Chao Lu, IEEE/ACIS International Conference in Software Engineering, Research , Management and Applications; June 9 2016 Towson, MD, USA

ACTIVE RESEARCH INTERESTS

- Integrated Domotic Systems
- Privacy and Security of Home Automation Systems
- Design Patterns for Critical, Real-Time Applications
- Computer Vision for Robots and Unmanned Vehicles

OPEN-SOURCE PROJECTS

- **sDOMO**: A protocol for fully integrated Home Automation and Robotic Systems, putting emphasis on security and privacy of the residents
    - http://mezonix.com/sDOMO.html

- **MTM-Dispatcher**: Multi-Threaded Message Dispatcher - Minimalistic Framework and Design Pattern to aid development of Mission/Safety Critical Message Processing Applications
    - http://mezonix.com/MTMDispatcher.html