

Gabriel Urbain

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EXPERIENCE

UGENT | PHD STUDENT - RESEARCH ASSISTANT AT THE IDLAB - IMEC

Since October 2015 | Ghent, Belgium

Topic: *Brain-inspired CPG architectures for robust locomotion learning on quadruped robots.*

Human Brain Project. Neurorobotics branch.

UMONS | RESEARCHER AT THE NUMEDIART INSTITUTE

February - October 2015 | Mons, Belgium

Topic: *Development of a Search Engine Based on Audio Similarities for Large Collections of Foley Sound.*

Research in partnership with Dame Blanche SA and CETIC. The produced algorithm is currently in the process of patenting.

THALES ALENIA SPACE | RESEARCH AND INNOVATION INTERNSHIP

August - September 2013 | Charleroi, Belgium

Topic: *Feasibility Analysis of an Electro-Mechanical Control System for Ariane Rocket Boosters.* Supervisor: Prof. Dr. Marc Bekemans.

UMONS | RESEARCH INITIATION INTERNSHIP

July - August 2011 | Mons, Belgium

Topic: *Semi-Automatic Creation of a 3D Model for the City of Mons.* Supervisor: Prof. Dr. T. Dutoit. IT Cluster

UMONS | RESEARCH INITIATION INTERNSHIP

July - August 2010 | Mons, Belgium

Topic: *Implementation of C/C++ Libraries in TRNSYS 16.1 for Heat Pump Study.* Supervisor: R. Lepore. Energy Cluster

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MASTER PROJECT AT THE SPACE SYSTEMS LABORATORY

June 2014 - November 2014 | Cambridge, USA

Topic: *Calibration and Fusion of Stereoscopic and Time-of-Flight Cameras for Zero Gravity Targets Inspection.* Supervisor: Dr. Alvar Saenz-Otero. Passed with the highest mention.

ISAE | SUPAERO

MASTER OF SCIENCE IN AEROSPACE ENGINEERING

August 2012 - November 2014 | Toulouse, France

Double Master Degree through T.I.M.E. Network. Major : Space Systems, Telecommunications and Networks.

UMONS | FACULTÉ POLYTECHNIQUE

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

September 2011 - November 2014 | Mons, Belgium

Major: Multimedia et Telecommunications. Graduated with Honors.

BACHELOR OF SCIENCE IN ENGINEERING

September 2008 - June 2011 | Mons, Belgium

Graduated with Honors.

PUBLICATIONS

Morphological Properties of Mass-Spring Networks for Optimal Locomotion Learning.

G. Urbain, J. Degrave, B. Carette, F. Wyffels and J. Dambre. In *Frontiers in Neurorobotics*. 2017

A Semantic and Content-Based Search User Interface for Browsing Large Collections of Foley Sounds.

G. Urbain, C. Frisson, A. Moinet and T. Dutoit. In: *Audio Mostly - A conference on interaction with sound*. 2016

INSPECT Sensor Suite for On-Orbit Inspection and Characterization with Extravehicular Activity Spacecraft.

D. Steinberg, T. Sheerin and G. Urbain. In: *45th International Conference on Environmental Systems*. 2015

WORKSHOPS - SYMPOSIUMS

4th HBP School | Future of Artificial Intelligence

Lightning talk and poster session. June 2017, Obergurgl, Austria.

1st Neurorobotics Platform User Workshop

April 2017, Munich, Germany.

3rd HBP School | Future of Neuroscience

Lightning talk and poster session. December 2016, Obergurgl, Austria.

4th HBP Education Workshop | Future of Computing

Lightning talk and poster session. January 2016. Manchester, UK.

5th Cubesat Symposium and the 6th QB50 Workshop

Lightning talk and poster session. June 2013. Brussels, Belgium.

IT SKILLS

SOFTWARE

Operating Systems | Middleware

Linux • Embedded Linux • Windows • ROS

Programming

C • C++ • Python • Matlab • Simulink • Java • Bash • VHDL • OpenCV • Git • \LaTeX

Embedded Platforms

Low-level development on: X86 • Atmel AVR (Arduinos, self-designed boards) • ARM (BeagleBone, RaspberryPI, Odroid) • Neuromorphic Hardware (SpiNNaker, BrainScaleS)

TECHNICAL

Embedded Systems • Image and Audio Processing • Neural Networks • Machine Learning • Robotics • Electronics • Telecommunications • Space Systems

LANGUAGES

French (Native. C2) • **English** (Fluent. C1. TOEFL IBT 105/120 in 2014) • **Dutch** (Medium. B1) • **Spanish** (Basic. A2)

ASSOCIATIVE LIFE

IROBOTIQUE | ADMINISTRATOR

2004 - 2017 | Mons, Belgium

- Design and development of robotic platform for museum guided tours (from 2014)
- Presentation of the association and its projects in different events: Mariemont Cultural Mediation Symposium, Museomix, Open FabLab Mons, Make Wallonia, Business To Museum and Tourism, ... (from 2014)
- Robot design for a Eurobot Junior competitions (2005, 2006, 2008) and Eurobot (2011, 2013)
- Creativity Award (2006), Belgian Junior Champions Award (2008), 8th European Junior position (2008), 7th European position (2013)
- Atmel AVR, OMAP processor and FPGA Programming Classes (2010-2012)

MUSEOMIX BELGIUM | ADMINISTRATOR AND ORGANISER

2015 - 2017 | Brussels, Belgium

Organization of hackatons and events confronting people from technological and cultural backgrounds to define the future of museum mediation in Belgium. Communication and website manager.

ART AND CAMPUS ACTIVITIES

Gent Universitair Symphonisch Orkest (2016-2017) • Sailing (2014) • CubeSat (2012-2014) • Scuba Diving (2013-2014) • Supaero Jazz Band (2012-2014) • Rowing (2013) • Winner of a GDF Suez scholarship (2012) • Student Culture Committee (2010-2011) • Student Regional Committee (2009-2012) • Board of Faculty (2011-2012) • Auto-evaluation Commission (2011-2012) • Board of Libraries (2010-2011) • Jazz Band Baudour (2001-2011) • Drums • Trumpet • Piano • Choral music