

REMUS MIHAIL PRUNESCU



PERSONAL DATA

Born in Romania, 29 December 1984

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WORK EXPERIENCE

Development Engineer (R&D)

Real-Time Hardware
C/C++

2016.01 → Now Propeller Control - Copenhagen, Denmark

Description: advanced control algorithms for diesel engines in the maritime technology.

- Model-based design and successful testing of a new engine power controller;
- A C/C++ numerical library for filtering, state estimation and model predictive control (MPC);
- Efficient implementation that takes 3ms to execute on the real-time hardware;
- Extensive data analysis to assess the control performance.

Industrial PhD Student (R&D)

Dynamic Modelling
Nonlinear Systems
Control Theory
Process Optimization
C/C++
Matlab/Simulink
python
git

2012.04 → 2016.01 **DONG Energy** - Copenhagen, Denmark

Project: Dynamic Modeling, Optimization and Advanced Control for Large Scale Lignocellulosic Biorefineries.

- Successful modeling and validation of a dynamic simulator for large scale plants;
- I have included uncertainty and sensitivity analysis in all my work, aspects often overlooked by other researchers;
- Process optimization at a large scale that maximizes the refinery profit;
- Peer-reviewed contributions listed on my [website](#).

L^AT_EX Supporter

2009.11 → 2015.10 **Technical University of Denmark** - Kgs. Lyngby

- Teaching and offering support to other students developed my soft skills such as: training, public speaking, listening and supervision;
- I contributed with templates for slide shows, PhD and MSc thesis, and course reports.

Software Developer

C/C++
Multithreading
gtest

2008.08 → 2009.03 **BitDefender** - Bucharest, Romania

Description: BitDefender is the most successful security software company. I was a member of the Desktop team, which had as objective the integration of the security tools into a user friendly application ready to be shipped to end users. Achievements:

- Introduced the team to new unit testing frameworks;
- Wrote the first unit tests in [gtest](#).

Software Developer

2006.06 → 2007.09 **AMA** - Bucharest, Romania

Description: AMA or Advanced Mobile Applications is a social software developer for mobile devices. Achievements:

- Optimize code to run on devices with limited resources (small memory and slow CPU);
- Rewrote parts of the API to make them more efficient.

EDUCATION

2012.04 → 2015.11 **Industrial PhD Student**

Technical
University of
Denmark

Thesis title: Dynamic Modeling, Optimization, and Advanced Control for Large Scale Biorefineries.
See my work experience as an industrial PhD student at DONG Energy.

2009.08 → 2011.10 **MSc. in Automation and Robot Technology**

Technical
University of
Denmark

Thesis title: Thermal Reactor Modeling and Control for Bio-Ethanol Production Processes.
This research deals with modeling and control of a thermal reactor for biomass pretreatment using computational fluid dynamics tools.
GPA: 10.7/12

2004.09 → 2009.06 **Engineer Diploma in Automatic Control**

University
Politehnica,
Bucharest,
Romania

Courses oriented towards automation and software engineering. I wrote my diploma thesis as an exchange student at Université de Picardie Jules Verne (UPJV) in Amiens, France. The paper was entitled **Vehicle Dynamics and Control** and it approaches new vehicle control techniques meant to improve the stability and the maneuverability of a 4 wheel steering machine.
GPA: 9.2/10

ADDITIONAL INFORMATION

Honors and Awards

Speaker and Chair of Biofuel Session, World Congress of Chemical Engineering 9 (August 2013), Seoul, South Korea. **Advances in Monitoring, Diagnosis and Control of Biorefineries.**
Best Presentation in Session Award, The American Control Conference 2013, Washington D.C., USA. **Modeling and L1 Adaptive Control of pH in Bioethanol Enzymatic Process.**

Publications

PhD Thesis

Prunescu R. M., 2015. **Dynamic Modeling, Optimization and Advanced Control for Large Scale Biorefineries.**

Journal Papers

Prunescu R. M., Sin G., Blanke M., J. G. Jakobsen, 2015. **Dynamic modeling and validation of a biomass hydrothermal pretreatment process - A demonstration scale study.** AIChE Journal, vol. 61, p. 4235-4250.

Prunescu R. M., Sin G., 2013. **Dynamic modeling and validation of a lignocellulosic enzymatic hydrolysis process - A demonstration scale study.** Bioresource Technology, vol. 150, p. 393-403.

Language Skills

Languages

ENGLISH · Fluent
FRENCH · Advanced

DANISH · Beginner
ROMANIAN · Mother Tongue

Computer Skills

Engineering Tools

Matlab/Octave (Expert), Simulink (Expert)

Programming

C/C++ (Expert), L^AT_EX (Expert), Python (Advanced)

Databases

SQL (Advanced), sqlite, HDF5

Hobbies

Sports

Half marathon runner. I also play futsal for a local club in the Copenhagen Futsal league.

October 17, 2016