REMUS MIHAIL PRUNESCU

PERSONAL DATA

Born in Romania, 29 December 1984

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WORK EXPERIENCE

2017.01 → Now — Move Innovation - Copenhagen, Denmark

Development Engineer (R&D)

Embedded Software
C
python
git

Description: Sensor integration in various applications.

- New firmware for in-house custom hardware;
- Control loops coded in miniature hardware with reduced system resources;
- Design of clean user interfaces for complex applications.

2016.01 → 2016.11 — Propeller Control - Copenhagen, Denmark

Development Engineer (R&D)

Real-Time Hardware
C/C++
python
git

Description: Advanced control algorithms for the maritime industry.

- Model-based design and testing of a new engine power controller;
- A C/C++ numerical library for filtering, state estimation and model predictive control (MPC);
- Very efficient implementation of a complex closed loop (3ms to execute);
- Extensive data analysis to assess the control performance.

2012.04 → 2016.01 — DONG Energy - Copenhagen, Denmark

Industrial PhD Student (R&D)

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

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

- Modeling and validation of a dynamic simulator for large scale plants;
- Uncertainty and sensitivity analysis;
- Process optimization at a large scale that maximizes the refinery profit;
- Peer-reviewed contributions listed on my website.

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

LaTeX Supporter

- Teaching and offering support to other students developed my soft skills such as: training, public speaking, listening and supervision;
- Design and user experience. I created templates for slide shows, PhD and MSc thesis.

2008.08 → 2009.03 — BitDefender - Bucharest, Romania

Software Developer

C/C++
Multithreading
gtest

Description: BitDefender is a 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.

2006.06 → 2007.09 — AMA - Bucharest, Romania

Software Developer

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

- Optimized 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

ADDITIONAL INFORMATION

Honors and Awards

Best Presentation in Session Award, AIChE Annual Meeting 2014, Atlanta, GA. **Model-Based Filtering of Large-Scale Datasets - A Biorefinery Application**.

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	Danish	· Beginner
French	· Advanced	Romanian	· Mother Tongue

Computer Skills

Engineering Tools Matlab/Octave (Expert), Simulink (Expert)

Programming C/C++ (Expert), LaTeX (Expert), Python (Advanced)

Databases SQL (Advanced), sqlite, HDF5

Hobbies

Sports Running, futsal, chess (challenge me on chess.com).

April 19, 2017