

Dominik Egarter

Lakeside Science and Technology Park B10.02.17, 9020 Klagenfurt, Austria

<http://www.aau.at/doegarte>

doegarte@gmail.com | + 43 0699 12218822



PERSONAL

Personal Citizenship: Austrian

Date and place of birth: Villach, December 30th, 1986

Language: German (mother tongue), English

EDUCATION

PHD IN INFORMATION TECHNOLOGY

Jan. 2012 to present | Alpen-Adria University Klagenfurt, Austria

DIPL.-ING. IN INFORMATION TECHNOLOGY

Oct. 2007 to Dec 2012 | Alpen-Adria University Klagenfurt, Austria with distinction

ING. IN ENERGY AND NETWORK TECHNOLOGY

Sep. 2002 to June 2007 | Federal Secondary College of Engineering Klagenfurt, Austria with distinction

LINKS

Github:// [doegarte](#)

LinkedIn:// [Dominik Egarter](#)

Sourceforge:// [doegarte](#)

Google Scholar:// [Dominik Egarter](#)

Research Gate:// [Dominik Egarter](#)

INTERESTS

TOPICS

Smart metering • smart grid • smart home • data analysis • machine learning • data mining • Bayesian signal processing • probabilistic data models • research • engineering

APPLICATIONS

Intelligent energy applications in smart homes and smart micro grids • design and the analysis of intelligent techniques and algorithms to detect legacy, non-smart appliances in aggregated household power draws • the design of architectural and conceptual requirements for smart appliances • the integration of smart and non-smart appliances into smart home • ensuring of household and consumer privacy by intelligent concepts and algorithms

SKILLS

PROGRAMMING & TECHNICAL

Extensive knowledge: Matlab • Simulink • C++ • \LaTeX

Basic knowledge: C • Python • HTML • CSS • VHDL • UML • SQL

Mover: Java • LabView • Objective-C • Android

Operating systems: Win • MacOS • Linux

Embedded: Arduino • Raspberry PI • Udo0

Hardware: Circuit design • PCB design

Applications: Eclipse • MS Office • SVN • GIT • Eagle

EXPERIENCE

RESEARCHER RESEARCH ASSISTANT AND PROJECT STAFF MEMBER

Jan 2012 – present | Klagenfurt, Austria

Smart Microgrid Project

- Setting up of a smart micro-grid laboratory with production and storage entities
- Development of monitoring and controlling solutions for smart homes

Load Disaggregation

- Development of smart algorithms to detect household appliances in the total household demand
- Privacy ensuring techniques and algorithms based on batteries and controllable loads

Monergy Project

- Measurement campaign in Italy and Austria to develop an power consumption dataset on appliance level and analysis of the monitored data

TECHNICIAN SYSTEM ADMINISTRATOR

Dec 2007 – Dec 2012 | Klagenfurt, Austria

- Support of the Institute of Networked and Embedded Systems Group @ AAU Klagenfurt
- Server and Laboratory Administration

PROFESSIONAL SOCIETIES AND SERVICE

- IEEE and ACM student member
- Reviewer for Journals, Conferences and Workshops (e.g.: IEEE Transactions on Industrial Informatics, Energieinformatik Conference, IECON,...)

AWARD

- 2010 2nd European TI Analog Design Contest
- 2010 Best performer information technology study program

COURSEWORK

An excerpt (complete list by request):

Signal Representation and Transmission
Digital Signal Processing & Processors
Signal Processing Architectures
Adaptive and Statistical Signal Processing
Chip Design
Mobile Systems
Circuit Design
Microelectronic
Design of Digital Systems
Databases
Computer Architecture
Embedded Communication & Microcontrollers
Analog and Mixed Signal Design
System Theory and Engineering
Control Systems
Pervasive Computing
Telecommunication Systems
Artificial Vision

PUBLICATIONS

CONFERENCES & WORKSHOPS

- M. Schellander, T. Khatib, W. Elmenreich and D. Egarter. *Techno-economical Assessment of Grid-connected Photovoltaic Power Systems Productivity in Summer Season in Klagenfurt, Austria*, accepted for IEEE International Conference on Power and Energy (PECON)
- C. Klemenjak, D. Egarter and W. Elmenreich, *YOMO - The Arduino based Smart Metering Board*, accepted for Conference Energieinformatik 2014.
- G. Brandner, J. Klinglmayr, D. Egarter, U. Schilcher and C. Bettstetter, *Precision of Pulse-Coupled Oscillator Synchronization on FPGA-Based Radios*, accepted for 10th International ITG Conference on Systems, Communications and Coding
- A. Monacchi, D. Egarter, W. Elmenreich, S. D'Alessandro, A. M. Tonello, *GREEND: an energy consumption dataset of households in Italy and Austria*, accepted for Conference IEEE SmartGridComm 2014.
- D. Egarter, C. Prokop and W. Elmenreich: *Load Hiding of Household's Power Demand*, accepted for Conference IEEE SmartGridComm 2014.
- D. Egarter, V.P. Bhuvana and W. Elmenreich, *Appliance State Estimation based on Particle Filtering*. In 5th ACM Workshop On Embedded Systems For Energy-Efficient Buildings (BuildSys 2013), Rome, Italy, November 2013.
- D. Egarter and W. Elmenreich, *EvoNILM - Evolutionary Appliance Detection for Miscellaneous Household Appliances*. In Proceedings of the Workshop on Green and Efficient Energy Applications of Genetic and Evolutionary Computation Workshop (at GECCO conference), Amsterdam, Netherlands, July 2013.
- A. Monacchi, D. Egarter, and W. Elmenreich. *Integrating Households into the Smart Grid*. In Proceedings of the Workshop on Modeling and Simulation of Cyber-Physical Energy Systems (at E-Energy conference), Berkeley, CA, May 2013.
- D. Egarter, A. Sobe, and W. Elmenreich. *Evolving Non-Intrusive Load Monitoring*. In Proceedings of the European Conference on the Applications of Evolutionary Computation (at EvoStar conference), Vienna, Austria, April 2013.
- W. Elmenreich and D. Egarter. *Design guidelines for smart appliances*. In Proceedings of the 10th International Workshop on Intelligent Solutions in Embedded Systems, Klagenfurt, Austria, July 2012.

JOURNALS

- D. Egarter, V.P. Bhuvana and W. Elmenreich, *PALDi: Online Load Disaggregation based on Particle Filtering*, accepted for publications in IEEE Transactions on Instrumentations and Measurement, 2014.
- T. Khatib, A. Monacchi, W. Elmenreich, D. Egarter, S. D'Alessandro, A. M. Tonello, *European end-user's level of energy consumption and current structural barriers for smart homes: A case study of residential sectors in Austria and Italy*, published in Energy Technology & Policy, 2014
- C. Klemenjak, D. Egarter and W. Elmenreich, *YOMO - The Arduino based Smart Metering Board*, accepted for Springer Journal "Computer Science - Research and Development".

BOOK CHAPTER

- D. Egarter, A. Monacchi, M. Pöchacker, K. Schweiger and B. Steinwender, *Smart Grid: Visionen & Herausforderungen*, published in Energie - Interdisziplinäre Perspektiven auf eine knappe Ressource (Profil Verlag; G. Getzinger, H. Gross)