Giovanni Misitano – Curriculum vitae

Personal Information

Full name	Giovanni Aleksi Misitano
Date of Birth	*REDACTED*
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Education

Jul 2020 **University of Jyväskylä** *Jyväskylä, Finland*
MSc in Mathematical Information Technology

Jan 2017 **University of Jyväskylä** *Jyväskylä, Finland*
B.S. in Physics

Current Research

Aug 2020 – Present **Multiobjective Optimization Group** *University of Jyväskylä, Finland* (**Doctoral Student**)

- Working full time on my PhD thesis titled *Explainable multiobjective optimization*.
- Developing DESDEO, the open-source Python framework for interactive multiobjective optimization.

Funding and Employment

Aug 2022 – Present **University of Jyväskylä**, employed as a full-time doctoral researcher

Aug 2021 – July 2022 **The Väisälä foundation**, funding to work full-time

May 2019 – Dec 2020 **Academy of Finland**, funding to work full-time

Past Research Experience

May 2019 – Jul 2020 **Multiobjective Optimization Group** *University of Jyväskylä, Finland* (**Research assistant**)

- Working on my MSc thesis: Preference modelling using belief-rule based systems in MCDM
- Development of multiobjective optimization software: Working on the modular re-implementation of the DESDEO software framework.
- Various tasks: Website development, and supporting the research work of other research group members.

May 2018 – Aug 2018 **CERN** *Meyrin, Switzerland* (**Trainee**)

- Building a deep neural network to try and predict particle trajectories in the CMS experiment.

May 2017 – Aug 2017 **Center for Underground Physics** *Pyhäsalmi, Finland* (**Trainee**)

- The C14 experiment: signal analysis of data produced by photo-multiplier tubes, and practical hands-on work with various apparatuses related to the experiment.
- The EMMA experiment: basic upkeep and maintenance work. Built a working gas circulation system with very limited resources for a set of pixel detectors.

May 2016 – Aug 2016 **LNGS** *l'Aquila, Italy* (**Trainee**)

- DAMA experiments: Basic maintenance work on the various experiments in the DAMA project.
- A project involving computer vision and machine learning, where I built a program to read the output of a webcam and infer the digits on a 8-segment temperature gauge.

Teaching Experience

Sep 2016 – Present **Student Laboratory** *University of Jyväskylä, Finland* (**Teaching assistant**)

Sep 2015 – May 2019 **Various physics courses** *University of Jyväskylä, Finland* (**Teaching assistant**)

Supervision

2021 Alaoutinen M., *Developing interactive data visualizations for web UIs*, Master's thesis, University of Jyväskylä, Finland

Lectures, Talks and Dissemination

Aug 2022 Lecturer, The 31st Jyväskylä Summer School, COM1: *Interactive Multiobjective Optimization: Applications and Tools to Support Decision Making* (University of Jyväskylä)

Jul 2022 Conference presentation, The EURO 2022 conference, *Explainability and its potential in interactive multiobjective optimization* (Aalto University)

Jun 2022 Conference presentation, 26th International Conference on Multiple Criteria Decision Making, *Latest advancements in software for interactive multiobjective optimization: introduction to DESDEO* (University of Portsmouth)

Jan 2022 Podcast guest, *Mitä tutkIT, Giovanni Misitano? Monitavoiteoptimoinnin tutkimus ja väitöskirjatutkijan arki*, AamukahvIT-podcast (University of Jyväskylä)

Dec 2021 Invited lecture, *DESDEO: The framework for interactive multiobjective optimization*, University of Turku

Dec 2021 Tutorial, *DESDEO: The Modular and Open Source Framework for Interactive Multiobjective Optimization*, DEMO seminar (University of Jyväskylä)

Nov 2021 Presentation, *DESDEO: The framework for interactive multiobjective optimization*, during the cruise arranged by the Doctoral Education Network on Systems Analysis, Decision Making and Risk Management

Oct 2021 Presentation, *Interfaces through the ages*, DEMO seminar (University of Jyväskylä)

Oct 2021 Tutorial, *The DESDEO web stack and its components*, DEMO seminar (University of Jyväskylä)

Jan 2021 Presentation, *Contributing to DESDEO–what you should know to get started*, DEMO seminar (University of Jyväskylä)

Nov 2020 Presentation, *How machine learning is being combined with multiobjective optimization?–Preliminary findings*, DEMO seminar (University of Jyväskylä)

March 2020 Presentation, *Belief-rule based systems: Can they be used to learn a decision maker's preferences for a multi-objective optimization problem?*, DEMO seminar (University of Jyväskylä)

Publications

2022 **Misitano G.**, Afsar B., Lárraga G., Miettinen K., *Towards Explainable Interactive Multiobjective Optimization: R-XIMO*, Auton Agent Multi-Agent Syst 36, 43

2022 Hakanen J., Radoš S., **Misitano G.**, Saini B.S., Miettinen K., Matković K., *Interactivized: Visual Interaction for Better Decisions with Interactive Multiobjective Optimization*, IEEE Access, 10, pp. 33661-33678

2021 **Misitano G.**, Saini B.S., Afsar B., Shavazipour B., Miettinen K., *DESDEO: The Modular and Open Source Framework for Interactive Multiobjective Optimization*, IEEE Access, 9, pp. 148277-148295

2021 Afsar B, Silvennoinen J., **Misitano G.**, Ruiz F., A. B. Ruiz, Miettinen K., *Designing Empirical Experiments to Compare Interactive Multiobjective Optimization Methods*, European Journal of Operational Research, *manuscript submitted*

2021 Kania A., Sipilä J., **Misitano G.**, Miettinen K., *Integration of lot sizing problem and safety strategy placement using interactive multiobjective optimization*, Computers & Industrial Engineering, *manuscript submitted*

2020 **Misitano, G.**, *Interactively Learning the Preferences of a Decision Maker in Multi-objective Optimization Utilizing Belief-rules*, 2020 IEEE Symposium Series on Computational Intelligence (SSCI), Canberra, Australia, pp. 133-140