# Lei LIU

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**RESEARCH DISCIPLINE**

Industrial Engineering, Stochastic Scheduling, Operations Management

**ACADEMIC EXPERIENCE**

**Marie Curie Research Fellow** Feb., 2020-Jan., 2023

- Horizon 2020 Framework Programme for Research and Innovation, European Union
- Industrial Collaborator: Ansaldo Energia S.p.A, Italy

**EDUCATION**

**Ph.D. in Mechanical Engineering (Industrial Engineering)** Spring, 2023

- Politecnico di Milano, Milano, Italy
- Advisor: Prof. Marcello Urgo
- Thesis: Risk-based scheduling in the re-manufacturing of turbine blades

**M.S. in Logistics Engineering** July, 2017

- Tsinghua University, Beijing, China
- Advisor: Prof. Canrong Zhang
- Thesis: A branch and bound algorithm for the robust parallel machine scheduling with sequence dependent set-up time

**Exchange student in Industrial Engineering** 2015.09-2016.03

- National Tsinghua University, Hsinchu, TaiWan

**B.S. in Information Management and System** July, 2013

- Northeast Forestry University,Harbin, China

**AWARDS**

**Marie Curie Fellowship**, 2020-2023
Finalist, **PMS Best Student Paper Award**, 2022
Finalist, **AITeM Young Researcher Award**, 2021

**WORKING PAPER**

**Lei Liu**, Walter Terkaj, Marcello Urgo. A review and classification of release and dispatching control policies in manufacturing systems, *to be submitted to CIRP journal of manufacturing science and technology*

**PUBLICATIONS**

**Lei Liu**, Marcello Urgo. Robust scheduling of a remanufacturing process for the repair of turbine blades, *under review at CIRP Annals*

**Lei Liu**, Marcello Urgo. Robust scheduling in a two-machine re-entrant flow shop to minimise the value-at-risk of the makespan: a branch-and-bound and heuristic algorithms based on Markovian Activity Networks and phase-type distribution, *under review at Annals of Operations Research*

**Lei Liu**, Marcello Urgo. Risk-based robust production scheduling: a branch-and-bound approach for the stochastic two-machine ow shop scheduling problem to minimise the value-at-risk, *major revision at International Journal of Production Research*

**Lei Liu**, Marcello Urgo, 2022. A robust scheduling framework for re-manufacturing activities of turbine blades, Applied Sciences, 12(6):3034.

**Lei Liu**, Marcello Urgo, 2022. Scheduling remanufacturing activities for the repair of turbine blades: an approximate branch and bound approach to minimize a risk measure. In Selected Topics in Manufacturing (pp. 41-59). Springer, Cham.

**CONFERENCE TALKS**

A branch and bound approach for stochastic 2-machine flow shop scheduling with rework

- 18th International Workshop on Project Management and Scheduling(PMS), Ghent, Belgium 2022
- Finalist, Best Student Award

Scheduling re-manufacturing activities for the repair of turbine blades: an approximate branch and bound approach to minimize a risk measure

- XV AITeM Conference (Italian Association of Manufacturing Technology), Milano, Italy 2022
- Finalist, Young Researcher Award

A branch-and-bound approach for the two-machine flow shop stochastic scheduling problem to minimize the value-at-risk

- 31st European Conference on Operational Research(EURO), Athens, Greece 2021

**TEACHING**

**TA, Mentor**, Smart Manufacturing Lab

- 2020-2021, 2021-2022

**OTHER PROFESSIONAL EXPERIENCES**

**Algorithm Engineer** 2018-2019

- ZheJiang Transportation Big Data Center, Hangzhou, China

**Software Engineer** 2017-2018

- Hundsun Technologies Inc. Hangzhou, China

**Data Intern** 2015.01

- KPMG, ShenZhen, China

**MEMBERSHIPS**

**Student Member**, EURO Working Group on Project Management and Scheduling (PMS)

**Student Member**, Italian Association for Manufacturing Technology (AITEM)

**COMPUTER SKILLS**

**Languages:** C++, Python, Java, Latex
**Software and tools:** Gurobi, Pyomo

**REFERENCES**

**Marcello Urgo**
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Mechanical Engineering Department
Politecnico di Milano
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**Canrong Zhang**
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