XIXI LU

Assistant Professor @ Utrecht University

Jun 2020

ABOUT ME

Xixi Lu, born July 17th, 1989, in Wenzhou, China, Dutch nationality.

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EDUCATION

2018.09 - 2019.03	**BKO / UTQ**	Vrije University Amsterdam, Amsterdam

Obtained the basiskwalificatie onderwijs (BKO), also known as University Teaching Qualification (UTQ) in English.

2013.10 - 2018.05	**Ph.D.**	Eindhoven University of Technology (TU/e)

at the Department of Mathematics and Computer Science
Thesis : *Using behavioral context in process mining: exploration, preprocessing and analysis of event data*

2011.09 - 2013.09	**M.Sc. Business Information System (Cum Laude)**	TU/e, Eindhoven

Majoring in Computer Science, specializing in Process Mining
Master thesis: *Artifact-centric log extraction and process discovery*

2008.09 – 2012.06	**B.Sc. Computer Science**	TU/e, Eindhoven

Bachelor project: developed an Android mobile application for the university to familiarize new students with the campus and facilities

2009.09 - 2010.02	**Minor Industrial Engineering,** studied abroad	Tsinghua University, Beijing

2009.09 - 2011.06	**Honors Program**	TU/e, Eindhoven

For students who wish for challenges and working in interdisciplinary teams.
Research thesis: *Remote controlled physical examination of preterm infants in incubators*

WORK EXPERIENCE - ACADEMIA

2020.04 - Present	**Assistant Professor**	Utrecht University, Utrecht

at the Department of Information and Computing Sciences

2019.01 - 2020.04	**Postdoctoral researcher**	Utrecht University, Utrecht

at the Department of Information and Computing Sciences

2019.11	**Visiting Researcher**	Technion - Israel Institute of Technology, Haifa, Israel

at the Faculty of Industrial Engineering & Management
visiting Prof. Avigdor Gal

2019.04	**Visiting Researcher**	Humboldt-Universität zu Berlin, Berlin, Germany

at the Department of Computer Science
visiting Prof.dr. Matthias Weidlich

2018.05 - 2018.12	**Postdoctoral researcher** at the Department of Computer Science	Vrije University, Amsterdam
2018.09	**Visiting Researcher** at the Department of Computer Science visiting Prof.dr. Matthias Weidlich	Humboldt-Universität zu Berlin, Berlin
2013.10 - 2018.05	**Ph.D. candidate** at the Department of Mathematics and Computer Science Supervisor: Prof.dr.ir. Wil van der Aalst | Daily supervisor: Dr. Dirk Fahland	Eindhoven University of Technology (TU/e)
2016.07	**Visiting Researcher** at École normale supérieure Paris-Saclay visiting dr. Stefen Haar	ENS Cachan, Paris
2015.11 - 2015.12	**Visiting Researcher** at Queensland University of Technology visiting Prof.dr. Arthur ter Hofstede	QUT, Brisbane
2009.09 - 2010.02	**Student-assistant** at TU/e, for course: *Logic and set theory*	TU/e, Eindhoven

TEACHING AND SUPERVISING EXPERIENCE

2020.04 - 2020.06	**Master Course: Process Mining Seminar** Role: Lecturer, responsible for 4 lectures, co-designed the course	UU, Utrecht
2018.05 - Present	**PhD student - Jelmer J. Koorn** Role: Co-promotor / Daily supervisor	UU, Utrecht
2020.04 - Present	**Master student - Bart Belleman** Role: 1st Supervisor | Title: *Using machine learning for detecting anomaly accesses to EHRs: a comparative analysis and case study*	UU, Utrecht
2020.06 - Present	**Master student - Mehrad Abdollahi** Role: 1st-supervisor | Title: *Trace clustering in process mining*	UU, Utrecht
2019.07 - 2019.12	**PhD student - Junxiong (Frank) Gao** Role : Advisor	RWTH Aachen
2019.05 - 2020.03	**Master student - Hemalatha Kanakarajan** Role: Supervisor | Title: *Data Science for Healthcare - Predicting Aggressive Behaviour in Intellectually challenged*	UU, Utrecht
2019.07 - 2020.03	**Master student - Pratik Kushwaha** Role: 2nd-supervisor | Title: *Artifact Centric Dynamic Software Architecture Reconstruction*	UU, Utrecht
2018.09 - 2019.01	**BPM course** Role: Guest Lecturer, tutor	VU Amsterdam
2016	**BPMS course** Role: Advisor	TU/e, Eindhoven
2015.09 - 2016.07	**Five Honor students in the Big Data Track** Role: Supervisor | title: *Measuring reader's impression in an online marking environment by analyzing clicking behavior*	TU/e, Eindhoven
2014	**BPI course** Role: Advisor	TU/e, Eindhoven

TALKS, POSTERS, AND SEMINARS

2019.11	Guest lecture at Technion - Israel Institute of Technology	Technion, Haifa, Israel
2019.11	Poster at Data Science Day	UU, Utrecht
2019.10	Poster at Commit2Data	NWO, Utrecht
2019.10	Invited talk at IPA research school	Wageningen
2017.09	Invited talk at Celonis	Munich, Germany
2016.07	Invited talk at Celonis	Munich, Germany
2015.10	Seminar at Queensland University of Technology (QUT)	QUT, Brisbane, Australia

PROFESSIONAL ACTIVITY

2020	PC member of ICPM 2020 (Research track)
2020	PC member of ICPM 2020 (Demo track)
2020	PC member of ICPM workshop EdbA 2020
2020	PC member of BPM 2020 (Foundation track)
2020	Reviewer for Journals: BISE, Information Systems
2019	PC member of AAAI workshop IPA 2020
2019	PC member of IEEE ICPM 2019
2015 - 2019	Reviewer for BPM'15,'16,&'19, ER'19
2015	local organizer for BPM'15 demo track

WORK EXPERIENCE - INDUSTRY AND OTHERS

2018.01 - 2018.03   **Software Engineer**   Celonis SE, Munich
in the Back-End team, leading the research into Process Mining Engine

2012.11 - 2013.09   **IT Advisor - Internship and master project**   KPMG, Eindhoven
at KPMG IT Advisory, worke on *Extraction of event data from the SAP systems to conduct process mining and process intelligence projects*

2009 - 2010   **Travel committee for the Honors program**   TU/e, Eindhoven
organized a study tour to Switzerland for the Honors students (about 26 students). Visited CERN, ETH Zurich, etc.

SOFTWARE DEVELOPMENT & DATA SCIENCE PROJECTS

2013-2019	**Software developer**
	Gained extensive experience in developing an open source framework Process Mining toolkits, known as ProM (link), and developed various tools/plugins/visualizations for ProM in Java
	• PartialOrderReplayer (link) - a tool/plugin to analyze process compliance, detect abnormal behavior that deviates from the normative model, and visualize diagnostics about deviations
	• L2Me (link) (demo) - a tool/plugin to preprocess event data, cluster behavior, and explore various model representations
	• LPE - a tool/plugin to interactively detect and extend behavior patterns in event data of processes and explore process behavior
2013-2019	**Process/data scientist**
	conducted various process analysis and research projects which include project management and collaborations with various external partners:
	• VUmc - analyzed patient clustering and patient pathways
	• IBM - analyzed purchase to pay (P2P) process
	• MUMC - analyzed patient healthcare process
	• AMC - analyzed privacy infringements in patient record accesses
	• Hilti Group - analyzed customer buying behavior

REFERENCES

Prof.dr.ir. **Wil M.P. van der Aalst**
Full professor at the Department of Computer Science in the RWTH Aachen University |
wvdaalst@pads.rwth-aachen.de | www.padsweb.rwth-aachen.de/wvdaalst/

dr.ir. **Dirk Fahland**
Associate professor at the department of Mathematics and Computer Science in the TU/e |
d.fahland@tue.nl | www.win.tue.nl/~dfahland/

Prof.dr.ir. **Hajo A. Reijers**
Full professor at the Department of Information and Computing Sciences of Utrecht University |
Part-time full professor at the Department of Mathematics and Computer Science of Eindhoven University
of Technology (TU/e) |
h.a.reijers@uu.nl | www.win.tue.nl/~hreijers/

Prof.dr. **Arthur ter Hofstede**
Head of the School of Information Systems within Queensland University of Technology |
a.terhofstede@qut.edu.au | yawlfoundation.org/arthur/

HONORS AND GRANTS

Best presentation, ZEUS workshop, 2017
Best Process Mining Master Thesis, Celonis, 2017
Travel grant (500 euro) for visiting 2nd European BPM Round Table, University Liechtenstein, 2014
Mathematical Kangaroo, 1st price of Netherland of 2nd year Havo, 2004

RELEVANT SKILLS

Computing: Java | Python | R | C++ | Latex
Language: Native Chinese | professional English | fluent Dutch

PUBLICATIONS

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Articles in peer-reviewed journals

Optimal Alignments Between Large Event Logs and Process Models over Distributed Systems (UNDER REVIEW)

Long Cheng, Cong Liu, Xixi Lu, Ying Mao, and Wil van der Aalst

IEEE Transactions on Automation Science and Engineering ().

Linking data and process perspectives for conformance analysis

Mahdi Alizadeh, Xixi Lu, Dirk Fahland, Nicola Zannone, and Wil M. P. van der Aalst

Computers & Security 73 (2018) pp. 172–193. 2018

The imprecisions of precision measures in process mining

Niek Tax, Xixi Lu, Natalia Sidorova, Dirk Fahland, and Wil M.P. van der Aalst

Information Processing Letters 135 (2018) pp. 1–8. 2018

Discovering Interacting Artifacts from ERP Systems

Xixi Lu, Marijn Nagelkerke, Dennis van de Wiel, and Dirk Fahland

IEEE Trans. Services Computing 8.6 (2015) pp. 861–873. 2015

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International peer-reviewed conference proceedings

FlexHMiner: Accurate Discovery of Complex Processes from Event Data using Hierarchical Process Models (UNDER REVIEW)

Xixi Lu, Avigdor Gal, and Hajo A. Reijers

IEEE ICDE, 2020

Automated Robotic Process Automation: A Self-Learning Approach

Junxiong Gao, Sebastiaan J. van Zelst, Xixi Lu, and Wil M. P. van der Aalst

OTM Conferences, 2019

Trace Clustering on Very Large Event Data in Healthcare Using Frequent Sequence Patterns

Xixi Lu, Seyed Amin Tabatabaei, Mark Hoogendoorn, and Hajo A. Reijers

BPM, 2019

Identifying Patient Groups based on Frequent Patterns of Patient Samples

Seyed Amin Tabatabaei, Xixi Lu, Mark Hoogendoorn, and Hajo A. Reijers

IEEE Healthcom, 2019

Semi-supervised Log Pattern Detection and Exploration Using Event Concurrence and Contextual Information

Xixi Lu, Dirk Fahland, Robert Andrews, Suriadi Suriadi, Moe Thandar Wynn, Arthur H. M. ter Hofstede, and Wil M. P. van der Aalst

On the Move to Meaningful Internet Systems. OTM 2017 Conferences - Confederated International Conferences: CoopIS, C&TC, and ODBASE 2017, Rhodes, Greece, October 23-27, 2017, Proceedings, Part I, 2017

Handling Duplicated Tasks in Process Discovery by Refining Event Labels

Xixi Lu, Dirk Fahland, Frank J. H. M. van den Biggelaar, and Wil M. P. van der Aalst

Business Process Management - 14th International Conference, BPM 2016, Rio de Janeiro, Brazil, September 18-22, 2016. Proceedings, 2016

PM ^2 : A Process Mining Project Methodology

Maikel L. van Eck, Xixi Lu, Sander J. J. Leemans, and Wil M. P. van der Aalst

Advanced Information Systems Engineering - 27th International Conference, CAiSE 2015, Stockholm, Sweden, June 8-12, 2015, Proceedings, 2015

Conformance checking in healthcare based on partially ordered event data

Xixi Lu, Ronny Mans, Dirk Fahland, and Wil M. P. van der Aalst

Proceedings of the 2014 IEEE Emerging Technology and Factory Automation, ETFA 2014, Barcelona, Spain, September 16-19, 2014, 2014

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International peer-reviewed workshop proceedings

Towards Understanding Aggressive Behavior in Residential Care Facilities Using Process Mining
Jelmer Jan Koorn, Xixi Lu, Henrik Leopold, and Hajo A. Reijers
ER Workshops, 2019

A Conceptual Framework for Understanding Event Data Quality for Behavior Analysis
Xixi Lu and Dirk Fahland
Proceedings of the 9th Central European Workshop on Services and their Composition (ZEUS 2017), Lugano, Switzerland, February 13-14, 2017. 2017

Discovering Interacting Artifacts from ERP Systems (Extended Abstract)
Dirk Fahland, Xixi Lu, Marijn Nagelkerke, and Dennis van de Wiel
Proceedings of the 7th International Workshop on Enterprise Modeling and Information Systems Architectures, EMISA 2016: Fachgruppentreffen der GI-Fachgruppe Entwicklungsmethoden für Informationssysteme und deren Anwendung, Vienna, Austria, October 3-4, 2016. 2016

Interactively Exploring Logs and Mining Models with Clustering, Filtering, and Relabeling
Xixi Lu, Dirk Fahland, and Wil M. P. van der Aalst
Proceedings of the BPM Demo Track 2016 Co-located with the 14th International Conference on Business Process Management (BPM 2016), Rio de Janeiro, Brazil, September 21, 2016. 2016

Detecting Deviating Behaviors Without Models
Xixi Lu, Dirk Fahland, Frank J. H. M. van den Biggelaar, and Wil M. P. van der Aalst
Business Process Management Workshops - BPM 2015, 13th International Workshops, Innsbruck, Austria, August 31 - September 3, 2015, Revised Papers, 2015

Conformance Checking Based on Partially Ordered Event Data
Xixi Lu, Dirk Fahland, and Wil M. P. van der Aalst
Business Process Management Workshops - BPM 2014 International Workshops, Eindhoven, The Netherlands, September 7-8, 2014, Revised Papers, 2014

Utrecht, June 5, 2020