

Marianne Rakic

Curriculum Vitae

PhD Student at
Computer Science and Artificial Intelligence Lab,
Massachusetts Institute of Technology

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Education

PhD Student, Massachusetts Institute of Technology Electrical Engineering and Information Technology	2020-Present
M.Sc., Swiss Federal Institute of Technology in Zurich Electrical Engineering and Information Technology GPA: 5.76/6	2017-2020
B.Sc., University of Liege, Summa cum laude, Bachelor in Engineering (major: Electrical engineering, minor: Physical engineering) GPA: 18.57/20	2014-2017

Research Experience

Visiting Student, Data-Driven Inference Group, CSAIL, MIT, Cambridge, MA Advisors: Adrian V. Dalca, John Guttag & Ender Konukoglu 1. Anatomical Predictions using Subject-Specific Medical Data (Master Thesis): Design of a learning-based method to predict the brain anatomical changes. Use deformation fields to leverage an existing MRI brain scan of the subject and supplementary external data to make an accurate prediction. 2. Learning Conditional Deformable Templates with Convolutional Networks: Design a learning based algorithm to build (potentially conditional) templates using deformation fields.	04.2019 – 05.2020
Semester Project II, Computer Vision Lab, ITET, ETH Zurich, Switzerland Advisors: Prof. Ender Konukoglu, Dr. Christian Baumgartner & Anna Volokitin, In collaboration with the company Ava AG. Analyze machine learning methods including Gaussian Processes, neural networks and Deep Gaussian Processes to classify sparse multi-dimensional time series.	10.2018 – 01.2019
Semester Project I, Computer Vision Lab, ITET, ETH Zurich, Switzerland Advisors: Prof. Maryam Kamgarpour & Dr. David Adjiashvili Build efficient strategies for firefighting in urban environment. Leverage mixed-integer programming and dynamic programming to tackle this task.	03.2018 – 07.2018

Teaching and Mentorship

Teaching Assistant, University of Liege, Liege, Belgium MATH0013-1/MATH0002-4/MATH0502-1: Algebra, Mathematical Analysis I & Mathematical Analysis II. Prof. Éric JM Delhez	09.2016-05.2017
Teaching Assistant, University of Liege, Liege, Belgium MATH0062-1: Elements of Probability. Prof. Louis Wehenkel	02.2017-05.2017

Publications

Adrian V Dalca, Marianne Rakic, John Guttag, and Mert R Sabuncu
“Learning Conditional Deformable Templates with Convolutional Networks”
NeurIPS: Neural Information Processing Systems (2019), Accepted, [Acc. rate: 21%].

Marianne Rakic, John Guttag, and Adrian V Dalca
“Anatomical Predictions using Subject-Specific Medical Data”
MIDL: Medical Imaging with Deep Learning. Short Paper. (2020).

Languages

French	Native
English	Advanced, 115/120 at TOEFL iBT test
German	Intermediate, B2

Computer Skills

TensorFlow, Keras, Python, MATLAB, C, L^AT_EX CPLEX, and Microsoft Office.

Extra Curricular Activities

Visiting Student Association Board, Massachusetts Institute of Technology	05.2019-11.2019
President Organization dedicated to enhancing the experience of the visiting students at MIT: orientation sessions, various events (over 150 attendees), managing a \$10,000 budget, recruiting and applying for funding.	
FAIL! Inspiring Resilience at MIT, Cambridge, MA	07.2019-10.2019
Member of organizing committee. Event gathering very successful individuals to tell their stories from another angle. Aims at destigmatizing failure and foster creativity and productivity. Over 600 attendees.	
English Language and Communication Course, Ceran Belgium, Spa	07.2017
English summer course to prepare for the TOEFL ibt exam.	
Leadership Course, Saint Clares, Oxford	07.2016
English and leadership summer courses, group projects, and visit of Oxford.	
English Junior Program, Converse International School of Languages, University of California, Berkeley	07.2014
English summer course, and visit of Berkeley and San Francisco.	

Scholarship

Nathaniel Durlach Graduate Fellowship	09.2020
Entrance Scholarship Fernand PISART	05.2014

Other Courses

CORE: Credential of Readiness , Pass with high honors, Harvard Business School Online.	02.2019-06.2019
Listening and Speaking ; B2 (German) , 5.75/6, University of Zürich.	09.2018-12.2018
Python Programming: a Concise Introduction , 99.6%, Wesleyan University, Coursera.	03.2018

Interests

Piano: I play classical music, alone or with other fellow musicians (piano, violin, flute).	2002-Present
Dancing: previously, classic, ragga and jazz; now, ballroom dances, and salsa.	2007-Present

References

Available upon request.