

Ruben Glatt

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Postdoctoral Researcher at Lawrence Livermore National Laboratory

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Summary

Ruben has a background in Mechatronics and Mechanical Engineering but has turned to Artificial Intelligence (AI) where his main interest lies in Machine Learning (ML) research, particular in Reinforcement Learning (RL) with a focus on human-inspired learning approaches that rely on reuse of previously acquired knowledge.

He received his Ph.D. in Computer Engineering in the area of ML at the [Escola Politécnica](#) of the [University of São Paulo \(USP\)](#), Brazil, holds a master degree in Mechanical Engineering in the area of controlling mechanical systems from the [Universidade Estadual Paulista Júlio de Mesquita Filho \(UNESP\)](#), Brazil, and a Diplom-Ingenieur degree in Mechatronics in the area of sensors and robotics from the [Karlsruhe Institute of Technology](#)

(KIT), Germany.

Apart from his academic experiences, Ruben has acquired years of professional experiences before and during his studies while working in the technology and energy sector and more recently with the organization of international ML conferences. Currently, he is a Postdoctoral Researcher at the [Lawrence Livermore National Laboratory](#), USA, working on ML projects and acts as chair of the [Lawrence Livermore Postdoc Association](#). Ruben's long term research interest lies in successfully applying ML techniques to real-world challenges to accelerate and improve decision-making, autonomously or as support tool for humans, to leverage ML in a safe and fair manner while driving AI adoption.

Professional Experiences

Postdoctoral Researcher Machine Learning

LIVERMORE (CA, USA)

[Lawrence Livermore National Laboratory](#)

07/2019 – present

Collaborative Autonomy: Using Reinforcement Learning approaches in multiagent systems to autonomously learn in collaborative and competitive settings. *Electro-mobility:* Worked as PI on improving driving and charging behavior for electric vehicles in on-demand transportation services.

Research Intern

REDMOND (WA, USA)

[Microsoft Research](#)

06/2018 – 10/2018

Automating software testing: Worked at the intersection of Software Engineering and Machine Learning to apply Reinforcement Learning techniques to facilitate software testing.

Lead Organizer

Various locations

[PAPIs.io](#)

02/2017 – present

Project management: Planned and organized international Machine Learning conferences in London, Boston, & São Paulo. *Business Development:* Expanded conferences to LATAM and increased frequency of conferences. *Partner management:* Initiated and negotiated new partnerships with sponsor and community groups. *People management:* Selected and coordinated team members.

Research Assistant (Bolsista FUNDUNESP)

GUARATINGUETÁ (BRAZIL)

[Universidade Estadual Paulista Júlio de Mesquita Filho, UNESP](#)

03/2012 – 03/2013

Project management: Planned and projected a condition based maintenance system in hydroelectric power plants using thermal imaging. *Hard- & Software Development:* Realized a low-cost surveillance system based on open source micro-controller technology for automatic unsupervised monitoring. *Mechanical Design:* Designed support structures for static and dynamic camera systems.

Datacenter Engineer

KARLSRUHE (GERMANY)

[United Internet AG](#)

09/2001 – 12/2011

Datacenter monitoring: Developed and administered control & monitoring systems for sensor networks. *Datacenter optimization:* Supported infrastructure optimization based on statistical analysis of sensor data and evaluation of new technologies. *Server relocations:* Planned and organized server relocations in and between Germany and the US. *Server Homing:* Technical responsible for server homing customers. *Technical support:* Handled all datacenter related issues in a small team.

Energy Engineer

KARLSRUHE (GERMANY)

[SanioSolar](#)

07/2011 – 12/2011

Energy consulting: Projected, installed, and monitored small photovoltaic plants and provided engineering services around energy-efficiency for SMBs and private households.

Soldier

LAUPHEIM (GERMANY)

[Bundeswehr - Hubschraubergeschwader 64](#)

07/2000 – 04/2001

Administration: Organized flight schedules and evaluated pilot performance data.

Education

- Escola Politécnica da Universidade de São Paulo, USP** SÃO PAULO, BRAZIL
Ph.D. in Computer Engineering, completed (CAPES scholar 03/2015-09/2018) 03/2015 – 06/2019
Improving DRL through knowledge transfer: Research project to extend DRL algorithms with Transfer Learning capabilities to improve the generalization of knowledge to speed up and improve learning for sequential tasks.
Advisor: Prof. Dra. Anna Helena Reali Costa
- Universidade Estadual Paulista Júlio de Mesquita Filho, UNESP** GUARATINGUETÁ, BRAZIL
M.Eng. in Mechanical Engineering, completed (CAPES scholar 04/2013-07/2014) 08/2012 – 07/2014
Deep Learning Architecture for Gesture Recognition: Multiple instance, user independent recognition of Italian sign gestures from multi-modal data using a Deep Belief Net.
Advisor: Prof. Dr. José Celso Freire Junior, *Co-Advisor:* Dr. Daniel Julien Barros da Silva Sampaio
- Karlsruhe Institute of Technology, KIT** KARLSRUHE, GERMANY
Diplom-Ingenieur in Mechatronics, completed 10/2004 – 09/2011
Micro-controller board for autonomous robotics platform: Developed circuit board for motor control and sensor evaluation. *Evaluation and presentation of measurements of a solar system:* Processed statistical solar data and integrated evaluations into faculty website. *Business and maturity models in the context of technical services:* Evaluated CMMI and SPICE integration for business models for technical service providers.
Advisor: Prof. Dr.-Ing. Michael Braun
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Other Academic Experiences

- Conference Volunteer** ICML 2016, NIPS 2016, NeuRIPS 2018 & 2019
- Event Organization** Workshop on *Transfer in Reinforcement Learning (TiRL)*, @ AAMAS 2017. Workshop on *Scaling up Reinforcement Learning (SURL)*, @ ECML 2017 & IJCAI 2019. *Meetups 2017-present*, in SP, Brazil.
- Other** Program Committee member (since 2017), Publication Reviewer (since 2015), student mentor (USP, 2017-2019), Undergraduate Thesis Committee Member (UNESP, 2014)
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Awards & Honors

- Heidelberg Laureate Forum (HLF)** 2020 + 2017
Outstanding Young Researcher
- Upsilon Pi Epsilon Honor Society Award (IEEE Computer Society)** 2019
Winner (awarded for academic achievements and extracurricular activities)
- Full Stack Deep Learning Bootcamp Berkeley** 2019
Turnitin scholarship
- 31st AAAI Conference on Artificial Intelligence (AAAI)** 2017
Doctoral Consortium travel grant (*Improving DRL through knowledge transfer*)
Best Student Poster (*An Advising Framework for Multiagent Reinforcement Learning Systems*)
- Google Research Award Latin-America** 2015 + 2016
Winner (*Improving DRL through knowledge transfer*)
- 5th Postgraduate Workshop in Computer Engineering** 2016
Distinguished Work Award (*Improving DRL through knowledge transfer*)
- 5th Brazilian Conference on Intelligent Systems (BRACIS)** 2016
Best Paper 1st Place (*Object-Oriented Reinforcement Learning in Cooperative Multiagent Domains*)
- Nvidia GPU Grant** 2016
GPU Donation for Ph.D. Project
- Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)** 03/2015 – 09/2018
Ph.D. Research Scholarship
- Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)** 04/2013 – 07/2014
M.Sc. Research Scholarship
- Fundação para o Desenvolvimento da UNESP (FUNDUNESP)** 03/2012 – 03/2013
Project Research Scholarship
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