Darjan Salaj

salaj.au@gmail.com | +43650 6826878 | Lagergasse 35A, 8020 Graz

EDUCATION

PhD candidate
Maschine Learning/ Comp. Neuroscience
Prof. Wolfgang Maass, HBP
since 2018

MSc in Computer Science with distinction
Graz University of Technology
Apr 2017

BSc in Computer Science
Graz University of Technology
Sep 2015

LINKS

Github: **github.com/dsalaj**
Website: **dsalaj.com**

SKILLS

SPIKING NETWORKS
Neuromorphic hardware
Temporal tasks
Recurrent models

MACHINE LEARNING
Deep Learning • Tensorflow
Recurrent Networks • Numpy
pandas • Matplotlib • NEST

WEB - MOBILE
Django • PostgreSQL • NodeJS
LESS • handlebars • JQuery
Android • Vue.js • Flask • etc.

LANGUAGES
Python • JavaScript • Java
Kotlin • C# • etc.

DEVOPS - OTHER
CI and CD with Jenkins • REST API
vim • bash • linux • OOP
slurm • HPC usage • tmux
Agile - Scrum • Unit Testing • TDD

COMMUNICATION

ENGLISH
fluent

GERMAN
advanced

PUBLICATIONS [GOOGLE SCHOLAR]

Long short-term memory and learning-to-learn in networks of spiking neurons
G. Bellec*, D. Salaj*, A. Subramoney*, R. Legenstein, W. Maass; NIPS 2018

Biologically inspired alternatives to backpropagation through time for learning in recurrent neural nets G. Bellec*, F. Scherr*, E. Hajek, D. Salaj, R. Legenstein, W. Maass; Submitted to Nat.Comm.

Eligibility traces provide a data-inspired alternative to backpropagation through time G. Bellec*, F. Scherr*, E. Hajek, D. Salaj, A. Subramoney, R. Legenstein, W. Maass; NeurIPS 2019 workshop

EXPERIENCE

RESEARCH | deep learning & computational neuroscience
2018-now | Graz, AT | TUGraz IGI

- Research in the domain of recurrent artificial and spiking neural networks
- Modelling and training of efficient recurrent networks on temporal tasks
- Work with neuromorphic hardware through: Intel Loihi team, SpiNNaker team of Manchester University, BrainScaleS team of Heidelberg University

MASTER THESIS | working memory in spiking neural networks
2017-2018 | Graz, AT | TUGraz IGI | Prof. Wolfgang Maass | Prof. Robert Legenstein

- "Spike-based LSTM-like Modules in Neural Networks"
- Tensorflow • recurrent neural networks

L2L | learning to learn framework
2017 | Graz, AT | TUGraz IGI

- Pypet based gradient-free Optimization framework
- Integration of NEST module SPORE as optimizee

MYTHING.COM | full-stack web development | Django
2015-2018 | Graz, AT

- 3D printing web platform
- Django • PostgreSQL • Docker • Celery • Jenkins • AWS • Scrapy

TUTORING | undergraduate classes
2014-2015 | Graz, AT | TUGraz ISDS | Prof. Keith Andrews

- Internet and New Media (2014/15 WS)
- Human-Computer Interaction (2015 SS, 2016 SS)

POCKET CODE | web development
2014-2015 | Graz, AT | TUGraz IST | Prof. Wolfgang Slany

- Web developer and designer for Catrobat project (**developer.catrobat.org**)

WINNING.AT | web development
2012-2013 | Graz, AT

- Web development using: handlebars, LESS, NodeJS and SQL.

OTHER

2019 HBP SP9 workshop @ Fürberg
- Intel INRC workshop @ Graz

2018 Human Brain Project (HBP) summit @ Maastricht, Netherlands
- Intel INRC workshop @ Reykjavík, Iceland
- HBP SP9 workshop @ Fürberg
- Learning to Learn workshop @ Fürberg am Wolfgangsee