Fábio Ferreira

Curriculum Vitae

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Person

Place of birth	Calw, Germany
Citizenship	German, Portuguese
Date of birth	April 17, 1990

Education

11/18–06/19 **Visiting Student Researcher**, *Interactive Perception and Robot Learning Lab, Stanford AI Lab, Stanford University*.
Master's thesis on Graph Neural Networks

10/16–10/19 **M. Sc. in Computer Science**, *Karlsruhe Institute of Technology, current GPA: 3.8*.
Machine Learning

2013-2016 **B. Sc. in Computer Science**, *Karlsruhe University of Applied Sciences, GPA: 3.8, with distinction (graduated among top 5%)*.
Theoretical CS, Software Engineering and Computer Vision

2010-2012 **State-Certified Technical Engineer**, *Advanced training, Gottlieb–Daimler–Schule 2 – Fachschule für Technik, GPA: 3.9 (graduated best in class)*.
Electrical Engineering, Computer Science

2006-2009 **IT systems engineer**, *Apprenticeship, Deutsche Telekom AG*.
Telecommunications, Information Processing

Publications

Journals

[1] **F. Ferreira***, J Rothfuss*, Eren. E. Aksoy, Y. Zhou, and T Asfour. *deep episodic memory: encoding, recalling, and predicting episodic experiences for robot action execution*. *IEEE Robotics and Automation Letters*, 4(3):4007–4014, 2018. The contents of this paper were also selected by IROS'18 Program Committee for presentation at the Conference.

Conferences

[2] L. Shao, **F. Ferreira***, M. Jorda*, V. Nambiar*, J. Luo, E. Solowjow, J. A. Ojea, O. Khatib, and J. Bohg. *UniGrasp: Learning a Unified Model to Grasp with N-Fingered Robotic Hands*. submitted to RA-L and ICRA 2020.

Technical Reports & Pre-prints

[3] **F. Ferreira**, L. Shao, T. Asfour, and J. Bohg. *Learning Visual Dynamics Models of Rigid Objects using Rrelational Inductive Biases*. submitted to NeurIPS 2019 Graph Representation Learning workshop.

[4] J. Rothfuss, **F. Ferreira**, S. Boehm, S. Walther, M. Ulrich, T. Asfour, and A. Krause. *Noise Regularization for Conditional Density Estimation*. submitted to ICLR 2020.

[5] **F. Ferreira***, J. Rothfuss*, S. Walther, and M. Ulrich. *conditional density estimation with neural networks: best practices and benchmarks*. to be published, arXiv preprint:1903.00954, 2019.

[6] S. Ottenhaus, D. Renninghoff, R. Grimm, **F. Ferreira**, and T. Asfour. *Visuo-Haptic Grasping of Unknown Objects based on Gaussian Process Implicit Surfaces and Deep Learning*. submitted to Humanoids 2019, 2018.

[7] **F. Ferreira***, J. Rothfuss*, E. E. Aksoy, Y. Zhou, and T. Asfour. *introducing the simulated flying shapes and simulated planar manipulator datasets*. arXiv preprint:1807.00703, 2018.

Theses

[8] **F. Ferreira**, T. Asfour, and J. Bohg. *Learning Dynamic Models of Rigid Objects from Image Input using Relational Inductive Biases*. Master's thesis, Stanford University, Computer Science Department, Stanford Artificial Intelligence Lab, Interactive Perception and Robot Learning Lab, 2019.

[9] **F. Ferreira**, M. Klar, N. Link, and A. Laubenheimer. *Optimal Convolutional Neural Network Architectures for Defect Classification in Images*. Bachelor's thesis, Robert Bosch Resesarch Department, Renningen, undisclosed due to NDA until 2021, 2016.

Scholarships

12/18–05/19 **e-fellows Computer Science Scholarship**, *Financial and mentorial sponsorship received by TRUMPF Group*.

10/18–03/19 **Baden-Württemberg-Stiftung**, *interACT student research grant in the amount of 5,400$ to support my master thesis conducted at Stanford AI Lab.*.

10/18–03/19 **German Academic Scholarship Foundation**, *Student research grant in the amount of 6,200$ to support my master thesis conducted at Stanford AI Lab.*.

Link `https://ferreirafabio.github.io/data/letter_of_award_stanford.pdf`

12/17–05/18 **e-fellows Computer Science Scholarship**, *Financial and mentorial sponsorship received by Capgemini SE*.

2015–2019 **German Academic Scholarship Foundation**, *Admission in November 2015, suggested by the university for exceptional student performances*.

Link `https://ferreirafabio.github.io/data/sdv.pdf`

Work Experience

05/18–08/18 **Visiting Lecturer**, *Baden-Wuerrtemberg Cooperative State University (DHBW Karlsruhe)*, Karlsruhe.
Designed and taught a machine learning introductory course for business information system degree students with a fellow student

Link `https://github.com/ferreirafabio/intro_to_ml_dhbw`

10/17–10/18 **Research Assistant**, *High Performance Humanoid Technologies Lab*, Karlsruhe Institute of Technology.
Research in deep learning for robotic perception and cognition, advice of staff in deep learning and TensorFlow-related questions

2013–present **Working Student**, *MBtech Group GmbH & Co. KGaA*, Sindelfingen.
Machine Learning consultancy and software development support

2012–2013 **Software Developer**, *MBtech Group GmbH & Co. KGaA*, Sindelfingen.
Software development in exhaust aftertreatment for Daimler AG, using Matlab/Simulink and Daimler tools

2010–2010 **Network Administrator**, *Sparkassen-IT GmbH & Co. KG*, Calw.
Configuration of Cisco Systems network devices, Linux server administration

Other Achievements

09/2017 **HackX 2017 Hackathon**, *Cologne, Germany, Microsoft Headquarters*, Tree-based representation of news articles based on Microsoft Azure Cognitive Services - Prototype created during the hackathon (sponsors: Microsoft, Handelsblatt, FlowFact), awarded for the best innovation and best pitch, https://www.hackathon.com/event/hackx—artificial-intelligence-hackathon-2017-36159341564.

03/2017 **StartHack 2017 Hackathon**, *St. Gallen, Switzerland, University of St. Gallen*, Participated in an AI challenge by Deutsche Bank at the StartHack Hackathon which was held in St. Gallen. Our team implemented a coupon recommendation prototype based on bank account expenses. The application recommends vouchers based on your bank account expenses and current location, so that when purchases are detected on the credit card, a suitable voucher will be provided the next time the customer logs into his Deutsche Bank account, https://starthack2017.devpost.com.

11/2016 **Speaker at the Deep Learning Student Talk**, *Karlsruhe University of Applied Sciences*, Both Prof. Link and Prof. Laubenheimer invited me as a speaker (along with two other alumni) to the first Deep Learning Student Talk with approximately 50 attendees. During the 60 minute presentation, I gave an introduction to the basics of Deep Learning and provided insights into my bachelor thesis results, https://ferreirafabio.github.io/data/posterdl.pdf.

Software Language Skills

Language	Level	Experience
Python	professional	4 years
Java	practitioner	2.5 years
Matlab	practitioner	2.5 years
C/C++	experienced beginner	2.5 years
SQL	beginner	1 year

Software and Machine Learning Skills

Frameworks/ Packages/ Platforms: TensorFlow, Caffe, OpenCV, numpy, pandas, sklearn, AWS, Microsoft Azure

Testing	Unittests, CI, statistical and functional testing

Languages

German	Native speaker
Portuguese	Native speaker
English	IELTS level 7.5
Spanish	Beginner

Interests

Reading	Besides working and studying, I use a considerable amount of my available time for reading books.
Sports	I play volleyball in a society and enjoy hiking in the alps and Black Forest region.
Politics	I am Interested in both national and international politics and enjoy political discussions at the German Academic Scholarship Foundation.