Felix Benedikt **Dollack**

RESEARCHER

Tsukuba, Ibaraki, JAPAN

(+81)70-2680-3459 | felix.dollack@gmail.com | felixdollack.github.io/aboutme | FelixDollack | felix-dollack | @febendo | Google Scholar

Education

2017 - 2020 — **Human Informatics (PhD)**

Tsukuba, Japan — **School of Integrative and Global Majors. University of Tsukuba.**

2013 - 2015 — **Hearing Technology and Audiology (MSc)**

Oldenburg, Germany — **School of Medicine and Health Sciences. Department of Medical Physics and Acoustics. University of Oldenburg.**

2009 - 2013 — **Hearing Technology and Audiology (BSc)**

Oldenburg, Germany — **School of Construction, Geoinformation and Health Sciences. Department of Technology and Health. Jade University of Applied Sciences Oldenburg.**

Work Experience

Dez 2015 – Mar 2017 — **Software engineer**

Erlangen, Germany — **Fraunhofer Institute for Integrated Circuit (IIS)**

- Implementation of the Advanced Audio Codec (AAC) for Bluetooth in Android smartphones.
- Customer support in porting AAC to different embedded platforms (ARM, Xtensa, etc.)
- Basic quality assurance through stress-testing of the in-house code base.

Educational Related Work Experience

Aug 2019 - Mar 2020 — **Research Intern in Affective Computing**

Atsugi, Japan — **NTT Communication Science Laboratories**

- Performing experiments in the field of affective computing.
- Collecting and analyzing data with multimodal recording systems. Including Eye tracking, Electrooculography, Electromyography, Electroencephalography and Galvanic Skin Response.

Aug 2014 - Mar 2015 — **Research Intern in Sound Localisation**

Oldenburg, Germany — **Fraunhofer Institute for Digital Media Technology (IDMT)**

- Implementation of different state-of-the-art localisation algorithms.
- Comparison of different localisation algorithms.
- Design and implementation of a GUI for algorithm comparison in Matlab.

Skills

Technical — **Very Experienced:** Python, Matlab, C/C++. **Experienced:** PyTorch, Android (Java), HTML, Arduino, Processing, Bash. **Basics:** Tensorflow, Unity, Oculus SDK, Robot Operating System (ROS).

Research — Machine learning, experimental design, qualitative research, quantitative research, statistical analysis, low, mid and hi-fidelity prototyping, multimodal sensing using EEG, EMG, EOG, motion tracking sensors and IMUs.

Languages — **German** (native), **English** (fluent), **Japanese** (basic, JLPT N5, currently learning), **Spanish** (basic, currently learning).

Congresses and courses

2019 **Deep Learning with PyTorch**

Online **Udacity**

- Predicting time series with neural networks.
- Transfer learning with convolutional neural networks for object recognition.
- Recurrent neural networks for text generation.
- General Adversarial Networks for generation of human faces.
- Deploying a sentiment analysis model to Amazon Web Services (Cloud computing).

2018 **Artificial Intelligence with Python**

Online **Udacity**

- Forward planning agents.
- Adversarial game playing agents.
- Sudoku solver.

Grants

Research Grants

2019 **Challenge grant**, Project: El-Astrocade. University of Tsukuba. Tsukuba, Japan. 5 000 USD

Scholarships

2017 – 2020 **Special Fellows Scholarship**, University of Tsukuba. Tsukuba, Japan. 82 000 USD

,

Publications

Peer-reviewed journals

2019 **Dollack, F.**, Perusquía-Hernández, M., Kadone, H., Suzuki, K. "Gaze and head anticipation during locomotion with auditory instruction in the presence and absence of visual input". Frontiers in Human Neuroscience Vol. 13:293. doi: 10.3389/fnhum.2019.00293

Peer-reviewed conference papers

2020 Perusquía-Hernández, M., Gómez Jáuregui, D. A., Cuberos-Balda, M., Paez-Granados, D. F., **Dollack, F.**, Salazar, J. V. "Robot Mirroring: Promoting Empathy with an Artificial Agent by Reflecting the User's Physiological Affective States". Proceedings of the 29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), Naples, Italy, September 2020, 6 pages.

2017 **Dollack, F.**, Imbery, C., Bitzer, J. "On the Analysis of Acoustic Distance Perception in a Head Mounted Display", Proceedings of the International Conference on Artificial Reality and Telexistence and Eurographics Symposium on Virtual Environments (ICAT-EGVE), Adelaide, Australia, November 2017, 4 pages. doi: 10.2312/egve.20171338

Publications without peer-review

2019 **Dollack, F.**, Perusquía-Hernández, M., Kadone, H., Suzuki, K. "Auditory Locomotion Guidance System For Spatial Localization". Proceedings of International Symposium of Micro-NanoMechatronics and Human Science (MHS), pp. 49-52, Nagoya, Japan, December 2019.

2016 **Dollack, F.**, Imbery, C., van de Par, S., Bitzer, J. "Influence of visual stimulation on distance perception and externalisation". Proceedings of the DAGA 2016, pp. 669-672, Aachen, Germany, March 2016.

2013 Hansen, M., **Dollack, F.**, Raufer, S., Grahlman, H.-L., Eberlei, G. "Speech intelligibility in realistic listening situations for different numbers, azimuths and movement of speech or noise maskers". Proceedings of the AIA-DAGA 2013, including the 40th Italian (AIA) Annual Conference on Acoustics, pp. 425-427.

Posters

2019 **Dollack, F.**, Perusquía-Hernández, M., Kadone, H., Suzuki, K. "Effect of Voluntary Gaze Movement on Gait Steering Control". International Society of Posture and Gait Research (ISPGR) World Congress.

2019 **Dollack, F.**, Kadone, H., Perusquía-Hernández, M., Suzuki, K. "Head Anticipation during Auditory Instructed Locomotion". International Society of Posture and Gait Research (ISPGR) World Congress.

Theses

2020 **Dollack, F.**, "Behavioural understanding of human spatial perception and navigation in auditory space". Ph.D. Thesis. Supervised by: Suzuki, K.

2015 **Dollack, F.**, "Investigation on the human performance at identifying facing angle with respect to acoustic externalization and presentation of different complex visual stimuli". Master thesis. Supervised by: Bitzer, J. and van de Par, S.

2013 **Dollack, F.**, "Influence of the placing of a circular microphone array on the results of acoustic direction of arrival estimation". Bachelor thesis. Supervised by: Wallhoff, F. and Gerlach, S.

Submitted manuscript

2020 Perusquía-Hernández, M., **Dollack, F.**, Tan, C. K., Ayabe-Kanamura, S., Suzuki, K. "Facial movement synergies and Action Unit detection from distal wearable Electromyography and Computer Vision". Submitted manuscript (Conference).

In preparation

2020 **Dollack, F.**, Perusquía-Hernández, M., Kadone, H., Suzuki, K. "Blind Navigation". Manuscript in preparation (Journal).

2020 **Dollack, F.**, Perusquía-Hernández, M. "EOG gaze estimation". Manuscript in preparation (Journal).

2019 Perusquía-Hernández, M., Kadone, H., **Dollack, F.**, Hirai, A., Iwata, H., Suzuki, K. "Head anticipation in 3D real world navigation". Manuscript in preparation (Journal).

References

Academic	**Prof. Kenji Suzuki**, kenji@ieee.org	Tsukuba University, Japan
Academic	**Prof. Jutta Kretzberg**, jutta.kretzberg@uol.de	University of Oldenburg, Germany
Academic	**Prof. Jörg Bitzer**, joerg.bitzer@jade-hs.de	Jade University of Applied Sciences, Germany
Industry	**Mr. Marc Gayer**, marc.gayer@iis.fraunhofer.de	Fraunhofer Institute of Integrated Circuits, Germany
Industry	**Mr. Markus Lohwasser**, markus.lohwasser@iis.fraunhofer.de	Fraunhofer Institute of Integrated Circuits, Germany