Neil Scheidwasser-Clow

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EXPERIENCE

Logitech	Lausanne, Switzerland
Scientific advisor	*Sep. 2021 –*

- Assisting interns for projects on deep-learning based speech representations

Engineering intern, CTO office	*Feb. 2021 – Aug. 2021*

- **Project:** Paralinguistic analysis of speech and non-speech audio signals
- Prepared repositories and submissions for INTERSPEECH and ICASSP
- Designed experiments to record speech under cognitive and physical load conditions

EPFL	Lausanne, Switzerland
Research engineer	*Feb. 2022 – Sep. 2022*

- Master enhancement internship at the Behavioral Genetics lab: extending the analysis of my Master's thesis for a publication
- Providing assistance in data science and signal processing for other projects (e.g., fiber photometry, kinematic analysis)

Student assistant	*2019 – 2022*

- 2021-2022: Applied data analysis (CS-401)
- 2019-2021: Analysis III (MATH-203)
- 2019-2021: Projects in Informatics (for SV) (CS-116)

EDUCATION

University of Copenhagen	Cophenagen, Denmark
PhD Fellow, Section of Epidemiology	*2022 –*
EPFL	Lausanne, Switzerland
MSc in Life Sciences Engineering (Distinction), Minor: Computational neurosciences	*2019 – 2022*

- **Relevant coursework:** Machine learning, Deep learning, Applied data analysis Controlling behavior in animals and robots, In silico neuroscience
- **Master's thesis:** *Analytical approaches to data from human virtual reality (VR) and neuro-physiology studies*

KTH Royal Institute of Technology	Stockholm, Sweden
Swiss European Mobility Programme – 3rd year Bachelor exchange	*2018 – 2019*
EPFL	Lausanne, Switzerland
BSc in Life Sciences Engineering	*2016 – 2019*
Lycée Janson-de-Sailly	Paris, France
Classes Préparatoires aux Grandes Ecoles (CPGE)	*2015 – 2016*

- Intensive undergraduate course in mathematics, physics, chemistry, biology and geology

PROJECTS (SELECTED)

EPFL	Lausanne, Switzerland
Behavioral Genetics Lab	*Feb. 2021 – Sep. 2022*

- Design of a GUI to facilitate post-processing of data from DeepLabCut (kinematics) and fiber photometry for behavioral tests in rodents.

EPFL	Lausanne, Switzerland
Neuroengineering lab	*Sep. 2020 – Feb. 2021*

- Semester project – comparing different deep learning-based approaches (DeepFly3D, DeepLabCut) for 2D pose estimation of tethered *Drosophila* flies.

EPFL	Lausanne, Switzerland
Psychophysics lab	*Sep. 2019 – Feb. 2020*

- Semester project – investigating how different recurrent neural networks can explain a set of psychophysical results that involve visual grouping and segmentation across space and time.

Technical Skills

Operating systems: Windows, Linux
Office automation: LaTeX, Microsoft Office
Programming languages: Python, C++, Matlab, basic knowledge of R, Julia, and Ruby
Machine learning frameworks: PyTorch, Tensorflow, Keras, scikit-learn
Audio processing: Audacity
Image processing: ImageJ
GUI design: Tkinter

Languages

French, English: Native speaker
German: Limited working proficiency
Swedish, Mandarin Chinese: Elementary knowledge

Publications

Scheidwasser-Clow, N., Kegler, M., Beckmann, P., & Cernak, M. SERAB: A multi-lingual benchmark for speech emotion recognition. In *International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 7697–7701, 2022. doi:10.1109/ICASSP43922.2022.9747348

- Code: https://github.com/Neclow/SERAB
- Featured as one of the strongest submissions of the HEAR 2021 NeurIPS challenge (https://neuralaudio.ai/hear2021-results.html).

Scheidwasser-Clow, N., Faggella, M., Kozlova, E., & Sandi, C. (2021). Commentary: The Risky Closed Economy: A Holistic, Longitudinal Approach to Studying Fear and Anxiety in Rodents. *Frontiers in Behavioral Neuroscience*, *15*. doi:10.3389/fnbeh.2021.664941

Preprints & upcoming publications

Elbanna, G., Biryukov, A., **Scheidwasser-Clow, N.**, Orlandic, L., Mainar, P., Kegler, M., Beckmann, P. & Cernak, M. (2022). Hybrid Handcrafted and Learnable Audio Representation for Analysis of Speech Under Cognitive and Physical Load. doi:10.48550/arXiv.2203.16637 [Accepted at Interspeech 2022]

Elbanna, G., **Scheidwasser-Clow, N.**, Kegler, M., Beckmann, P., Cernak, M. (2022) BYOL-S: Learning Self-supervised Speech Representations by Bootstrapping. Under review at *HEAR 2021 NeurIPS competition PMLR Special Journal Issue*. doi:10.48550/arXiv.2206.12038

Other interests

Student organizations:

- **Data Analytics Group (DAG) at EPFL**: co-founder
  * Goal: build a strong community of students who share a passion for data science and artificial intelligence
  * 2022: Head of Communications
  * 2021: Head of Event Management
- **Erasmus Student Network (ESN)**:
  * Copenhagen: commitee member (2022-)
  * Lausanne: commitee member (2020-2022)

Scrabble: Under-18 French World Scrabble Champion (2015), currently in World top-100
Sports: Football, running, skiing, bouldering, tennis, squash