

Nina Markl

PhD student in Sociolinguistics and NLP

Education

- since 2019 **PhD Student**, *UKRI Centre for Doctoral Training in Natural Language Processing*, THE UNIVERSITY OF EDINBURGH, Edinburgh, Scotland.
- **Supervisors:** Dr Catherine Lai, Dr Lauren Hall-Lew
 - **Research focus:** sociolinguistics/sociophonetics, speech and language technologies and algorithmic bias
 - **Research interests:** algorithmic bias in speech and language technologies, evaluation of speech technology, human-computer interaction, language and identity, language policy, sociophonetics, corpus methods, quantitative and statistical methods in sociophonetics
 - **Courses:** Human-Computer Interaction, Use and evolution of digital data analysis and collection tools, Bayesian Statistics for Social Scientists, Controversies in the Data Society, Accelerated Natural Language Processing, Automatic Speech Recognition, Computer Programming for Speech and Language Processing, Introductory Applied Machine Learning, Special Topics in Sociolinguistics, Doing Research in Natural Language Processing
- 2015–2019 **Linguistics MA (Hons) First Class Honours**, THE UNIVERSITY OF EDINBURGH, Edinburgh, Scotland.
- Honours dissertation (awarded Angus McIntosh Prize): *A sociophonetic study of FACE and GOAT in Leith, Edinburgh*. (supervisor: Dr Josef Fruehwald)
 - Courses on social anthropology, linguistic theory, phonetics, phonology, morphology, language variation & change, psycholinguistics & language acquisition and statistics

Publications

- [1] L. Hall-Lew, C. Cowie, S. J. McNulty, N. Markl, S.-J. S. Liu, C. Lai, C. Llewellyn, B. Alex, N. Fang, Z. Elliott, and A. Klingler. “The Lothian Diary Project: Investigating the Impact of the COVID-19 Pandemic on Edinburgh and Lothian Residents”. In: *Journal of Open Humanities Data* 7 (2021). DOI: 10.5334/johd.25.
- [2] N. Markl and C. Lai. “Context-sensitive evaluation of automatic speech recognition: considering user experience & language variation”. In: *Proceedings of the First Workshop on Bridging Human-Computer Interaction and Natural Language Processing*. Online: Association for Computational Linguistics, 2021, pp. 34–40. URL: <https://www.aclweb.org/anthology/2021.hcinlp-1.6>.
- [3] L. Burchell, J. Chi, T. Hosking, N. Markl, and B. Webber. “Querent Intent in Multi-Sentence Questions”. In: *Proceedings of the 14th Linguistic Annotation Workshop*. Barcelona, Spain: Association for Computational Linguistics, 2020, pp. 138–147. URL: <https://www.aclweb.org/anthology/2020.law-1.13>.

Research Experience

- April 2021 – **Research Assistant**, *Lothian Diaries Project*, University of Edinburgh.
July 2021 Data management; data analysis; semi-automatic transcription of audio and video recordings using Kaldi
- October 2020 **Research Assistant**, *Lothian Diaries Project*, University of Edinburgh.
– April 2021 Data management; data analysis for presentations and publications using R
- May – July **Research Assistant**, *Lothian Diaries Project*, University of Edinburgh.
2020 Automatic and semi-automatic transcription of audio and video recordings using Kaldi; data preparation using Python
- May – July **Research Assistant**, *Dr Andreas Steinhauer*, University of Edinburgh.
2020 Digitisation of historic Austrian birth records using optical character recognition software (Transkribus) and post-processing thereof using R and Python
- 2019 **Research Assistant**, *Dr James McElvenny*, *Language Science Press*, Edinburgh.
Typesetting Manuscripts in \LaTeX

Teaching Experience

- 2021/22 **Tutor**, *LEL2B: Phonetics and Empirical Methods*, University of Edinburgh.
2nd year undergraduate course introducing phonetics and empirical methods; small group in-person tutoring and marking
- 2021/22 **Marker**, *Sociolinguistics Research Design*, University of Edinburgh.
marking for MSc course on sociolinguistic research design
- 2020/21 **Tutor**, *PPLS Skills Centre*, University of Edinburgh.
Essay writing, quantitative data analysis and statistics support for undergraduate and post-graduate students (coursework and dissertations)
- 2020/21 **Tutor**, *LEL2B: Phonetics and Empirical Methods*, University of Edinburgh.
2nd year undergraduate course introducing phonetics and empirical methods; small group tutoring and marking for online/remote course
- 2020/21 **Tutor**, *PPLS Skills Centre*, University of Edinburgh.
Quantitative data analysis and statistics support for students completing honours and MSc dissertations

Prizes, Grants and Awards

- 2019-2023 **PhD Funding**, *UKRI Centre for Doctoral Training in Natural Language Processing*, University of Edinburgh.
Full scholarship covering tuition fees, programme costs and stipend (approx £80,000 for 4 years)
- 2019 **Angus McIntosh Prize**, *Angus McIntosh Centre and School of Philosophy, Psychology and Language Sciences*, University of Edinburgh.
Prize for best honours dissertation in Linguistics & English Language (£100)

Talks and Posters

- 2021 **Nina Markl**, *Using commercial automatic speech recognition in sociolinguistic research.*, 49th New Ways of Analyzing Variation (N WAV). 19-24 October, online (Austin).

- 2021 **Nina Markl**, “*Hey Siri, why don’t you understand me?*” *Speech and Language Technologies, Language Variation & Algorithmic Bias.*, Language in Context Seminar Series, University of Edinburgh. 15 October, online.
- 2021 **Nina Markl**, (*HW*) in *Edinburgh: Variation and Change in a complex consonantal variable*, 13th UK Language Variation and Change (UKLVC). 8-10 September, online (Glasgow).
- 2021 **Nina Markl**, *Predictive Bias in English language Automatic Speech Recognition: the role of speech datasets*, Linguistics and English Language Postgraduate Conference, University of Edinburgh. 10-12 June, online (Edinburgh).
- 2021 **Lauren Hall-Lew, Claire Cowie, Stephen Joseph McNulty, Nina Markl, Shan-Jan Sarah Liu, Catherine Lai, Clare Llewellyn, Beatrice Alex, Nini Fang, Zuzana Elliott, Anita Klingler, and Eleanor MacCallum**, *The Lothian Video Diary Project.*, Linguistic Society of America (LSA). 7–10 January, online. .
- 2019 **Lauren Hall-Lew, Nina Markl, Brandon Papineau and Matthew Sung**, *Regional and Social Variation in Scottish T-glottaling*, 12th UK Language Variation and Change (UKLVC), 3–5 September, Queen Mary University of London.
- 2019 **Nina Markl**, *A sociophonetic study of /e/ and /o/ in Leith, Edinburgh*, 9th Undergraduate Linguistics Association of Britain (ULAB), 11-14 April, Queen Mary University of London.
- 2018 **Nina Markl**, *Austrian Standard German: A national variety of German?*, 8th Undergraduate Linguistics Association of Britain (ULAB), 08-10 April, University of Edinburgh.

Professional Activities

- 2019–2021 **Organising Committee**, LANGUAGE LUNCH AT EDINBURGH.
Bi-monthly interdisciplinary poster sessions for researchers working on language at the University of Edinburgh
- 2019 **Organising Committee**, EDINBURGH SYMPOSIUM FOR HISTORICAL PHONOLOGY.
- 2018–2019 **National Chair**, UNDERGRADUATE LINGUISTICS ASSOCIATION OF BRITAIN.
Britain’s national organisation for undergraduate linguistics which provides a platform for undergraduate research at an annual conference
- 2017–2018 **Secretary**, UNDERGRADUATE LINGUISTICS ASSOCIATION OF BRITAIN.
Secretary of committee of undergraduate students organising 8th annual 3-day ULAB conference
- 2016–2019 **Coordinator & Volunteer**, FAMILING PEER SUPPORT.
Peer support programme for undergraduate students in Linguistics and English Language (weekly revision sessions)
- 2019–2020 **Treasurer**, EDINBURGH UNIVERSITY LINGUISTICS SOCIETY.
Academic student society organising fortnightly academic talks for a broad audience and social events
- 2018–2019 **Talks Organiser**, EDINBURGH UNIVERSITY LINGUISTICS SOCIETY.
- 2016–2017 **Vice President**, EDINBURGH UNIVERSITY LINGUISTICS SOCIETY.

Technical skills

Praat, ELAN, *annotation, analysis, manipulation of audio files*, experienced.

Word, Powerpoint, L^AT_EX, Canvas, *text processing and presentations*, experienced.

R, Python, Excel, *Data analysis, statistics, data processing (incl text data)*, experienced.

Bash, Matlab, *basic*.

Languages

German, *First language*.

English, *CEFR C2*.

Spanish, *Intermediate*.

French, *Intermediate*.

Research Interests

- Sociophonetics
- Quantitative & Computational Methods
- Language & Identity
- Language & Migration
- Language & Gender
- Language & Sexuality
- Equitable Innovation
- Algorithmic Bias & Discrimination
- Ethics & NLP