Ali Nirheche

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Education

Ph.D. in Linguistics   *Amherst, MA, USA*

UNIVERSITY OF MASSACHUSETTS AMHERST   *Sep 2022 - Present*

Master's Degree in Linguistics   *St. John's, NL, Canada*

MEMORIAL UNIVERSITY OF NEWFOUNDLAND   *Sep 2019 - Aug 2021*

- MA Thesis: Broken Plural Formation in Moroccan Arabic: A Stratal OT Account
- Advisor: Dr. Sara Mackenzie

Teaching Skills Enhancement Program   *St. John's, NL, Canada*

MEMORIAL UNIVERSITY OF NEWFOUNDLAND   *Sep 2020 - Apr 2021*

- Program Facilitator: Dr. Daphne Crane

Bachlor's Degree in English Studies (Major: Linguistics)   *Rabat, Morocco*

UNIVERSITY OF MOHAMMED V   *Sep 2016 - Jul 2019*

- BA Research Supervisor: Dr. Abdellatif Al Ghadi

Post-secondary Diploma in IT Development   *Temara, Morocco*

SPECIALIZED INSTITUTE OF APPLIED TECHNOLOGY   *Sep 2011 - Jul 2013*

- Final Project Supervisor: Adnane Zoubir

Research Interests

Primary   **Phonological/morphological theory, computational phonology, Moroccan Arabic**

Secondary   **Syntax, experimental and corpus linguistics**

Papers

[submitted] (with Abdelkader El-Khaoua) **Variable Negation of Adjectival Predicates in Moroccan Arabic: A Large-Scale Corpus Study**

[submitted] **Using temporal stability to probe the syllabification of medial geminates: evidence from Moroccan Arabic**

[in press] **A parallel, constraint-based account of Moroccan Arabic iambic broken plurals**. In A. Korangy & K. Bensoukas (Eds.), The Handbook of North African Arabic. Springer.

[in press] **Modeling distance-based variable sibilant harmony in Moroccan Arabic with a MaxEnt grammar**. In Arabic Linguistics.

[2025] (with Michael Becker) **NONFINALITY drives epenthesis in the Moroccan Arabic broken plural**. Brill's Journal of Afroasiatic Languages and Linguistics, 17(2), pp.333-359.

[2025] **Variable and exceptional assimilation of the definite article [l-] in Moroccan Arabic**. Proceedings of the Annual Meetings on Phonology 1(1).

[2024] (with Imane Momayiz, Aissam Outchakoucht, and Omar Choukrani) **TerjamaBench: A culturally specific dataset for evaluating translation models for Moroccan Darija**. AtlasIA.

[2021] **Broken plural formation in Moroccan Arabic: a stratal optimality theory account**. Masters thesis, Memorial University of Newfoundland.

Software/Corpora

[2025] Moroccan Arabic Plurals Corpus [Data set]. Zenodo. https://doi.org/10.5281/zenodo.14642330

[2024] Maxent with hidden structure in R. Shiny app for studying Harmonic Grammar and Maximum Entropy grammar in R, including features for hidden structure learning. Available at: https://alingwist.shinyapps.io/HGR_app

Presentations

[2025] **A parallel, constraint-based account of Moroccan Arabic iambic broken plurals**. Presented at the Interdisciplinary Perspectives on Phonology and its Interfaces 2025, Kenitra, Morocco.

[2025] (with Virginia Partridge, Joe Pater, Parth Bhangla, and Brandon Prickett) **AI-assisted analysis of phonological variation in English**. Presented at the special session on Deep Phonology at the Annual Meeting of Phonology (AMP) 2025, UC Berekley, CA.

[2025] (with Mickael Becker) **Prosodic augmentation in the Moroccan Arabic broken plural**. Presented at Rencontres du Réseau Français de Phonologie (RFP) 2025 at Agadir, Morocco.

[2025] **Using temporal stability to probe the syllabification of medial geminates: evidence from Moroccan Arabic**. Presented at Rencontres du Réseau Français de Phonologie (RFP) 2025 at Agadir, Morocco.

[2025] (with Mickael Becker) **NonFinality drives epenthesis in the Moroccan Arabic broken plural**. Presented at Ph-PhoNE 2025 at MIT, Cambridge, MA.

[2024] **Variable and exceptional assimilation of the definite article [l–] in Moroccan Arabic**. Presented at the Annual Meeting of Phonology (AMP) 2024 at Rutgers University, New Brunswick, NJ.

[2024] **Modeling distance-based variable sibilant harmony in Moroccan Arabic with a MaxEnt grammar**. Presented at the 37th Annual Symposium on Arabic Linguistics at Long Island University, Brooklyn, NY.

Workshops

[2026] **OT-Help 2.0: A computational tool for phonological analysis**. Workshop led as part of the MA program in Linguistics, Faculty of Letters and Human Sciences, Mohammed V University, Rabat, Morocco.

Teaching Experience

Teaching Assistant   *UMass Amherst*
Fundamentals of speech sounds (LING-302)   *Jan 2025 - May 2025*
- Responsibilities: Holding office hours, grading weekly assignments, mid-term exam, and final examinations.

Teaching Assistant   *UMass Amherst*
Phonology (LING-402)   *Sep 2024 - Dec 2024*
- Responsibilities: Holding office hours, grading weekly assignments, mid-term exam, and final examinations.

Teaching Assistant   *UMass Amherst*
Phonology (LING-402)   *Sep 2023 - Dec 2023*
- Responsibilities: Holding office hours, grading weekly assignments, mid-term exam, and final examinations.

Teaching Assistant   *University of Ottawa*
Phonology (LING-2320)   *Jan 2021 - Apr 2021*
- Responsibilities: Leading discussion groups, grading weekly assignments, mid-term exam, and final examinations.

Co-Instructor   *Memorial University of NL*
Introduction to Linguistics (LING-1100)   *Jan 2021 - Apr 2021*
- Responsibilities: Teaching synchronous and asynchronous classes, leading discussion groups, grading weekly assignments, mid-term exam, and final examinations.

Teaching Assistant   *Memorial University of NL*
Advanced Phonology (LING-4203)   *Sep 2020 - Dec 2020*
- Responsibilities: Grading weekly assignments, mid-term exam, and final examinations.

Teaching Assistant *Memorial University of NL*
PHONETICS (LING-3104) *Jan 2020 - Apr 2020*
- Responsibilities: Grading weekly assignments, mid-term exam, and final examinations.

Research Experience

Research Assistant *UMass Amherst*
PRINCIPAL INVESTIGATORS: DR. JOE PATER AND VIRGINIA PARTRIDGE *May 2025 - Dec 2025*
- Project: Building an automatic IPA transcription model

Research Assistant *UMass Amherst*
PRINCIPAL INVESTIGATOR: DR. JOE PATER *Jan 2024 - August 2024*
- Project: Developing a Shiny App for MaxEnt learner with Hidden Structure

Research Assistant *UMass Amherst*
PRINCIPAL INVESTIGATOR: DR. JOE PATER *May 2023 - Aug 2023*
- Project: Learning Stress with Feet and Grids

Research Assistant *UMass Amherst*
PRINCIPAL INVESTIGATOR: DR. JOE PATER *Aug 2022 - Sep 2022*
- Project: Learning Stress with Feet and Grids

Research Assistant *Memorial University of NL*
PRINCIPAL INVESTIGATOR: DR. SARA MACKENZIE *Apr 2020 - Aug 2020*
- Project: The implications of contrastive models of phonological representations for constraint-based models of phonological operations with an emphasis on the notion of structure preservation.

Research Assistant *Memorial University of NL*
PRINCIPAL INVESTIGATOR: DR. PHIL BRANIGAN *Jan 2020 - Apr 2020*
- Project: Morphosyntax of Innu-aimun

Additional Work Experience

Data Team Member *Remote*
ATLASIA *Aug 2024 - Present*
- Responsibilities: conducting linguistic analyses and providing Moroccan Darija-specific grammatical rules to inform the development and refinement of AI models.

Online Tutor *Remote*
SUPER PROF *Oct 2019 - Present*
- Responsibilities: Offering online sessions in English and different areas of linguistics to undergraduate students of English and linguistics.

Languages

English
FLUENT
- Spoken and written

Arabic
FLUENT
- Spoken and written

French
BASIC
- Reading knowledge, improving writing and speaking abilities

Skills

Programming Languages

Python, R, Javascript

Other Software

Praat, JASP, Latex