

# ALI VINCENT AL-AZEM

Mathematics Graduate | Research Engineer

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in avalazem

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## EXPERIENCE

### Co-Author

École Normal Supérieure

Jun 2025 – Present

Paris

- Co-authoring a paper on the role of syllable structure in early language acquisition. Designed and implemented a data pipeline using the IPA-CHILDES database to analyze syllable composition and frequency across 31 languages, grounded in phonetic and typological principles.

### Research Internship

École Normal Supérieure

Laboratoire de Sciences Cognitives et Psycholinguistique (LSCP)

Nov 2024 – May 2025

Paris

- Designed and implemented an fMRI paradigm to investigate brain regions involved in word processing. Performed extensive cross-linguistic stimulus selection and categorization.
- Conducted fMRI data acquisition at NeuroSpin and developed a preprocessing and analysis pipeline using Nilearn.
- Partnered with a computational team to train deep neural models on phonetic data, simulating human word repetition and probing the cognitive and neural mechanisms behind language processing.

### Undergraduate Research Initiative

UCLA

Jul 2022 – Aug 2022

Los Angeles

- Studied on the effect of generalized alcohol use on memory recollection as part of an ongoing meta-analysis on UCLA undergraduate students.
- Analyzed mitochondrial DNA using sequencing techniques (e.g., PCR, BLAST) to study the geographical spread of haplogroups and current migration patterns.

## PUBLICATIONS

### Conference Proceedings

- Al-Azem, A., Chemla, E., Zhan, M., Pallier, C., and Lakretz, Y., "Mapping single word processing onto brain dynamics," in ICCL, Paris, 2025.
- Tey, K. J., Peperkamp, S., Cychosz, M., Al-Azem, A., and Cristia, A., "Towards a scalar approach to syllable complexity classification for predicting cross-linguistic variation in vocal development," in Stanford University, 2025.

## EDUCATION

M1 Mathématiques et Applications

Sorbonne Université

Sep 2023 – Jun 2024

B.Sc. Mathematics, Regents' Scholar

UCLA

Sep 2019 – Jun 2021

## SKILLS

Python

C/C++

Git

Expyriment

Self-Motivated

Open-Minded

## LANGUAGES

English (native)



French



## REFEREES

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