

Massimo Daul

New York University Mathematics Undergrad

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SUMMARY

I'm a fourth-year Shelby Davis Scholar at New York University, pursuing a joint major in Mathematics and Computer Science. My research focuses on computational tools for low-resource languages, where I work to make language models more inclusive.

TECHNICAL SKILLS

Languages: Python, Java, C++

Frameworks: PyTorch, TensorFlow, Keras, Scikit-Learn, Pandas, Seaborn

Relevant Courses: Linear Algebra, Linguistics in Latin America, Combinatorics, Analysis, Data Structures, Operating Systems, Fundamentals of Machine Learning, Algebra, Theory of Probability, Bilingualism

EXPERIENCE

Computational Intern - Low-Resource Language Documentation

06/2024 - current

Endangered Languages in Contact in Istria and Kvarner

New York City, USA

- Headed project for fine-tuned custom Wav2Vec2-Bert models for ASR and Forced-Alignment of low-resource languages
- Developed machine learning approaches for part-of-speech tagging, speaker diarization, and segmentation to be used in low-resource corpus creation

Computational Intern - Addiction Research

06/2019 - 12/2023

Jackson Laboratory

Bar Harbor, USA

- Designed neural networks for gait detection and pose analysis in mice to further addiction research.

Computational Intern - Small Business Development

06/2023 - 08/2023

Profit Decoder

New York City, USA

- Developed transparent economic data analysis solutions for a start-up supporting small businesses

PUBLICATIONS

Linguistically Informed Tokenization Improves ASR for Underresourced Languages

Submitted to *Field Matters* (under review), First Author

Comparing Phonological Feature Sets for Low-Resource ASR

Presented at the Annual Meeting on Phonology; under review for conference proceedings publication, Second Author

Comparison of Neural Network and GMM-HMM-Based Forced Alignment Models on Istro-Venetian

Manuscript in preparation for extended conference submission, Co-Author

Creating a Multilingual Spoken Corpus for Language Documentation and Research

Presented at *ICLDC*, Co-Author

EDUCATION

Collegio Del Mondo Unito Dell'Adriatico

International Baccalaureate

Duino, Italy

September 2021 - May 2022

New York University

Mathematics-Computer Science joint degree

New York City, USA

September 2022 - Present

LANGUAGES

English, Italian: Fluent **Spanish, Portuguese:** Conversational