MASSA BAALI

PhD Candidate · Speech & Audio Language Models · Explainable AI

Speech scientist and PhD researcher at CMU specializing in speech language models, explainable speaker verification, and speech foundation models. Proven track record of award-winning research, commercialized speech systems, and high-impact publications. Founder and technical leader with experience spanning academia, industry research, and startups.

mbaali@cs.cmu.edu | LinkedIn | Google Scholar | massabaali7.github.io | Pittsburgh, PA | Lawful Permanent US Resident

WORK EXPERIENCE

Research Scientist Intern — Summer 2026
Adobe · San Francisco, CA
- Developing a state-of-the-art multilingual speech-to-text aligner

PhD Researcher — Apr 2024 – Present
Carnegie Mellon University · Pittsburgh, PA
- Led 4 first-author projects: CoLMbo, CoLMbo-SV, SVeritas, CAARMA
- Produced 6 research papers in first year of PhD
- Lead weekly MLSP lab meetings; mentor multiple students
- Reviewer for ICASSP; LTI PhD and MLT Admissions Committees

Shadow Instructor & Lab Instructor — Jan 2025 – Present
CMU Introduction to Deep Learning (11-785)
- Deliver recitations and lectures; mentor 200+ students on DL projects
- Recorded lectures on VAEs and Diffusion Models available on YouTube

Instructor, JSALT 2026 Summer School — Summer 2026
Johns Hopkins University CLSP · 12th Frederick Jelinek Memorial Workshop
- Delivered deep learning lecture series: MLPs, CNNs, RNNs, attention

Student Researcher — Summer 2025
Adobe Research · San Jose, CA (Remote)
- Research internship with the Speech team

AI Researcher — Feb 2022 – Mar 2024
MBZUAI · Abu Dhabi, UAE
- Built end-to-end check-worthiness detection for political debates
- Core contributor to JAIS: 13B-parameter Arabic LLM (395B tokens)

Deep Learning Researcher — Apr 2021 – Feb 2022
Kanari AI · Remote
- Dialectal Arabic ASR outperforming Google, Microsoft, Amazon
- Introduced TTS in collaboration with QCRI and CMU

Founder — Apr 2015 – Jan 2019
Clerk · Remote
- Built an AI-driven recruitment platform using personality and skill inference
- Accepted into Founder Institute and MIT Bootcamp; featured in major media outlets

EDUCATION

Ph.D. in Language Technologies — 2024 – 2027
Carnegie Mellon University · Advisor: Prof. Bhiksha Raj

M.S. in Computer Science — 2019 – 2021
American University of Beirut FULL SCHOLARSHIP

B.S. in Informatics Engineering (AI) — 2015 – 2017
Arab International University FULL SCHOLARSHIP

SKILLS & EXPERTISE

Speaker Verification	Speech LLMs
Explainable AI	PyTorch / ESPnet
ASR / TTS Systems	Deep Learning
Multilingual Speech	Team Leadership

SELECTED PUBLICATIONS

CAARMA & SVeritas
EMNLP FINDINGS 2025

CoLMbo: Speaker Language Model
ASRU 2025

PDAF: Phonetic Debiasing Framework
IEEE SLT 2024

ESPnet-Codec: Neural Audio Codecs
IEEE SLT 2024

DELULU: Speaker-Aware Self-Supervised Speech Foundation Model
ACL (SUBMITTED)

JAIS: Arabic 13B LLM
NLE (SUBMITTED)

ACHIEVEMENTS & AWARDS

- ★ **6 papers** in 1st year of PhD
- ★ **Full scholarships** for all degrees
- ★ **Craziest Big Idea Award** SLT-CODE 2022
- ★ **Clerk AI Startup** Founder Institute, MIT, Flat6labs
- ★ **Microsoft Research** top 5% of 520 applicants

COMMUNITY & TEACHING

- ◆ **Head Coach, Syria National Team** International Olympiad in AI; medals in 2026
- ◆ **TEDx Lead Organizer** first in Syria; covered by WSJ and The Guardian
- ◆ **Peer Mentor** onboarding for incoming CMU LTI PhD students
- ◆ **Student Governance** candidate for elected office; advocate for international students
- ◆ **OURCS Mentor** 48-hour research demo with undergraduates
- ◆ **Jusoor NGO** taught refugees' math, English, and computer science

LANGUAGES & INTERESTS

Arabic (native) · **English** (fluent)
Basketball · Tennis