

Sarra Baouab

Psychology researcher | Computational and developmental neuroscience

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RESEARCH INTERESTS

Development of memory and learning; how questioning shapes what children report; computational models of neurons and synaptic plasticity; the validity of automated measures in psychology.

RESEARCH EXPERIENCE

Psychotherapy research lab | Research Developer

Dec 2025 – present

With Prof. Katie Aafjes-van Doorn, remote. AI simulated patients for training therapists' Facilitative Interpersonal Skills (FIS).

- Primary developer of the lab's live platform, where trainees hold five-minute spoken sessions with AI patients and receive skills feedback.
- Designed and ran its first remote feasibility and acceptability study as my bachelor's thesis (14 participants), including consent, pre/post questionnaires and pseudonymised data export.
- Developed and evaluated a multimodal AI-based FIS scoring system integrating facial and linguistic information to assess therapist interpersonal skills; audited its ratings against the scoring manual and refined the assessment pipeline.

Forensic psychology research group | Research Assistant

Sep 2025 – present

With Prof. Pekka Santtila, on site, then remote. AI-supported questioning in child forensic interviews, Arabic arm.

- Investigating whether AI translation between English and Tunisian Arabic preserves the content of children's statements and the form of interviewers' questions.
- Co-designing a controlled experiment on real interview transcripts adapted into Tunisian Arabic, comparing models across five levels of context.
- Built a spoken child-avatar prototype that classifies each interviewer question by type and answers as a child might, for interviewer training.

COMPUTATIONAL NEUROSCIENCE

Neuro Workbench | Independent project

Oct 2026 – present

Reproducible simulation of published neuron and synapse models, as groundwork for model-validation experiments.

- Ran Brian2's implementation of the Song, Miller & Abbott (2000) spike-timing-dependent plasticity model under a fixed protocol, with every run recorded and exactly replayable.
- Built a passive cable model of a reconstructed rat CA1 neuron in NEURON and cross-checked it against Jaxley; checks against cable theory are ongoing.
- Implemented six published plasticity rules for a study of whether standard experiments can tell them apart; its first validation stage is under way.

PRESENTATION

Baouab, S., & Aafjes-van Doorn, K. (2026, June). *The development of an avatar-based FIS training platform* [Presentation]. Society for Psychotherapy Research Annual International Meeting, Osaka, Japan.

EDUCATION

University of Europe for Applied Sciences | B.Sc. Psychology

2024 – 2026

Berlin

- Thesis: *An AI Simulated-Patient Platform for Practicing Facilitative Interpersonal Skills: A Feasibility and Acceptability Pilot Study*.
- Selected grades (of 100): Experimental Research Projects 100, Physiology 98, Psychopathology 96, Neuropsychology 90.

Touro University Berlin | Psychology coursework (B.A. programme)

2021 – 2023

Berlin

Lycée Français Victor Hugo | French Baccalauréat, scientific track

2020

Frankfurt am Main. Research project: *What do blind people dream of?*

APPLIED AND TEACHING EXPERIENCE

Council of Europe | Independent Expert (Adaptation)

Sep 2025 – present

Remote. EU–Council of Europe project on child-friendly justice in Tunisia.

- Adapted a ten-module training on interviewing child victims for professionals in Tunisia, keeping open questions open in Tunisian Arabic.
- Produced the training videos for all ten modules in French and Arabic.

Independent client project | Software & Assessment Developer

Sep – Oct 2026

Training and certification business; developed locally, launch pending.

- Developed a bilingual consulting website, a training website and a local administration platform for course management, bookings and assessment records.
- Drafted an examination blueprint and implemented assessment and certification rules, with integrity checks enforced in the database.

Racial disparities in wrongful convictions | Course project, continued independently

2025 – present

- Built a data pipeline on the U.S. National Registry of Exonerations and drafted a preregistration.

Undergraduate psychology course | Teaching Assistant

Fall 2025

Psychology of Human Sexuality

- Wrote exams and class materials; coordinated clinical role-play interviews with a partner university.

SKILLS AND LANGUAGES

Research: study design, questionnaires, preregistration, child forensic interviewing protocols (NICHD)

Computation: Python, R, SPSS, SQL; Brian2, NEURON, Jaxley; language-model evaluation

Simulation: Unreal Engine, MetaHuman, NVIDIA Audio2Face

Languages: Arabic (Tunisian native; Modern Standard B2), French (native), English (fluent), Spanish (B2), German (B1), Mandarin (HSK 3)