

HUGO CORREIA

Software Engineer
HCI Researcher

https://www.linkedin.com/in/hugo-correia-3634a52a3/

https://orcid.org/0009-0009-0206-5346

+351-911-584-192

https://github.com/hugocorreia15

hf_correya@hotmail.com
hf.correia@ua.pt

Rua Fernando Pessoa, Lote 26, Eixo-Aveiro, Portugal

ABOUT ME

MSc in Computer Science from the University of Aveiro and researcher at IEETA, working on Human-Computer Interaction, eye tracking, and usability evaluation. Strong background in full stack development and software architectures, with experience conducting user studies and building research platforms end to end.

EDUCATION

Secondary School
Science and Technology - Escola Secundária José Estevão, Aveiro
Sep 2018 - Jul 2021
Average: 18.2/20

BSc. in Computer Science Avg: 15.3/20
University of Aveiro
Oct 2020 - Jun 2024

Bsc. Final Project	19/20
INTRODUCTION TO SOFTWARE ENGINEERING	17/20
COMPUTER AND ORGANIZATIONAL SECURITY	19/20

Master in Computer Science Avg: 17.9/20
University of Aveiro
Sep 2024 - Jun 2026

DISSERTATION	**20/20**
INFORMATION VISUALIZATION	19/20
PRE-DISSERTATION	18/20

SOFT SKILLS

- Team Management
- Creativity
- Problem-solving
- Adaptability
- Critical Thinking
- Leadership

SKILLS

Programming Languages
TypeScript/Javascript, Java, Python, Ruby, C, CPP, Kotlin

Databases
SQL, MongoDB, Redis, Cassandra, Neo4j, MariaDB, Postgres, MinIO

Cloud Computing
AWS, Azure, Google Cloud

Web Develpment
JQuery, ShadCn, CSS, NextJS, HTML, AngularJS, TailwindCSS, Astro, React, Tanstack (Table, Query, Router)

Frameworks and Related
SpringBoot, Flask, FastAPI, TensorFLow, Numpy, OpenCV, Kafka, RabbitMQ

EXPERIENCE

Research Grant — *SET 2024 - JUN 2026*
Institute of Electronics and Informatics Engineering of Aveiro - IEETA

- Designed and developed BEHOLD, a plugin-based framework for gaze-aware evaluation of interactive ecosystems, with a device-agnostic architecture supporting multiple eye tracking hardware platforms, real-time multimodal synchronization via Lab Streaming Layer (LSL), and integrated data collection, analysis, and visualization workflows.
- Developed Avalux (avalux.pt), a platform supporting usability testing sessions, and conducted usability studies of Bosch seamless touch panel interfaces within the SensingHome project.
- Contributed to a modular framework supporting research on advanced medical imaging technologies, in a multidisciplinary team including cardiologists, computer science engineers, and biomechanical engineers.

XR Research Project — SpeakEase — *2025 - 2026*
Institute of Electronics and Informatics Engineering of Aveiro - IEETA

- Co-developed SpeakEase, a VR framework for public speaking training built with Unity and the Meta Quest 3, featuring configurable virtual audiences, real-time speech analysis, and analytics dashboards for students and therapists.
- Conducted user studies to assess learnability and task completion, with the work resulting in two accepted 2026 publications (Eurographics 2026 and IHIET-FS 2026).

Núcleo de Estudantes de Informática - NEI — *2021 - 2026*
Coordenator - Head of Recreation - Head of Sports

- As Head of Recreation/Head of Sports, I lead diverse teams and manage the organization of leisure and sports events. This role has strengthened my leadership, team coordination, and logistical planning skills, ensuring the successful execution of high-profile university events.

RESEARCH INTERESTS

- Eye Tracking & Gaze Analysis
- Usability Evaluation
- Multimodal Interaction
- Virtual & Extended Reality
- Data Engineering
- Machine Learning
- Software Engineering

LANGUAGE

- Portuguese
- English
- Spanish

ACTIVITIES

- Sessões de esclarecimento de dúvidas e apoio pedagógico a cadeiras introdutórias (FP, POO, ITW), que o NEI publica no GitHub
- A plataforma open-source do NEI (NEI-AAUAV/Platform no GitHub), com apontamentos e eventos para os estudantes
- Meetups DSPT Aveiro (Data Science Portugal) acolhidos pelo núcleo
- Sunset d'Engenharias, evento conjunto de dez núcleos de engenharia da AAUAv com público-alvo de milhares de estudantes
- Receção aos novos alunos e convívios do DETI (Guerra de Balões, jantares de curso)
- Secção desportiva (desporto_nei), que como Head of Sports geriste diretamente
- Semana do Enterro, com gestão de dezenas de eventos em calendário partilhado
- ThinkTwice Hackathon, workshop de cibersegurança para alunos do secundário, e a base de dados de 830+ empresas que já tínhamos

PUBLICATIONS

- **Correia H., Marques B., Vale Costa L., Silva S. (2026). BEHOLD: An Extensible Eye-Tracking Infrastructure Supporting Multimodal, Multi-Device Interaction Evaluation.** IHIET-FS 2026, Vol. 235. doi.org/10.54941/AHFE-Paper-0196 (in press)
- **Cardoso L., Correia H., Marques B., Dias P., Silva S., Sousa Santos B. (2026). An Adaptive XR Platform for Multimodal Public Speaking Training and Performance Assessment.** IHIET-FS 2026, Vol. 235. doi.org/10.54941/AHFE-Paper-0197 (in press)
- **Correia H., Cardoso L., Marques B., Silva S., Dias P., Sousa Santos B. (2026). SpeakEase: A Virtual Reality Framework for Public Speaking.** Eurographics 2026, Education Papers (in press)
- **Ferreira D., Correia H., Cruz D., Rosa J., Oliveira A., Cotorobai A., Figueiredo B., Pacheco O. (2026). Trailblazer: A Machine Learning Augmented Destination Management System.** Springer. doi.org/10.1007/978-3-032-10721-3_12
- **Correia H., Marques B., Silva S. (2025). Open-Source Tools Are Just the Start: A Human-Centred Approach to Supporting Clinical Workflows for Left Ventricular CT Analysis.** HCI International 2025, Springer. doi.org/10.1007/978-3-031-94150-4_23

PROJECTS

- **BEHOLD |** Eye-tracking analysis platform. Plugin-based, hardware-agnostic infrastructure validated with a 29-participant Tobii Pro Glasses study. Next.js, TimescaleDB, PostgreSQL, MinIO, LSL. github.com/hugocorreia15/SensingHome
- **Avalux (avalux.pt) |** Usability testing platform with templates, live sessions, task metrics, error and hesitation logging, and SUS scoring. Used in the Bosch seamless panel studies. github.com/hugocorreia15/usertesting
- **SpeakEase** | VR public speaking trainer built with Unity and Meta Quest 3, with configurable audiences, speech analysis, and analytics dashboards. Basis for two accepted 2026 papers.
- **Quests@NEI |** Microservices-based gamification platform for student engagement at NEI / AAUAv. github.com/NEI-AAUAV/nei-gamification-system
- **Relay** | Personalized WhatsApp messaging tool. Next.js app for sending personalized bulk WhatsApp messages with delivery status, read receipts, scheduling, and ban-safety controls. Live at relay-omega-sage.vercel.app · github.com/hugocorreia15/relay
- **DGA Detection System** | Full-stack cybersecurity ML system detecting algorithmically generated (botnet/C2) domains. Six ML models (Random Forest, LSTM, XGBoost, Transformer, DistilBERT), FastAPI backend, React dashboard, Chrome extension, and Prometheus/Grafana monitoring. Python, Docker · github.com/hugocorreia15/mei_aas_pf
- **SensingHome Examples** | React + TypeScript component and interaction examples for the SensingHome project. Vite, TypeScript, shadcn/ui · github.com/hugocorreia15/sensing_home_examples
- **Portfolio** | Personal portfolio website (in development). github.com/hugocorreia15/portfolio