



**Name: Or Haim Anidjar**

**Date: 11/2024**

Faculty of Computer Science

The College of Management Academic Studies

## **CURRICULUM VITAE**

### **1. Personal Details**

Electronic Address: **orchaimanidjar@gmail.com**

Marital Status: **Single**

### **2. Higher Education**

#### **A. Undergraduate and Graduate Studies**

**2016 – 2018**                      **M.Sc. Computer Science & Applied Mathematics, Ariel University, Israel**

Topic: "A Machine Learning Approach to Predicting the Hysteresis of Water Retention Curves of Porous Media"

Advisors: Prof. Amos Azaria, Dr. Arcady Beriozkin

**2010 – 2013**                      **B.Sc. Computer Science, Bar Illan University**

#### **B. Doctoral Degree**

**2021 – 2022**                      **Post-Doctoral Fellow, Ariel University, Israel**

Topic: Natural Language Processing - Out of Distribution for Cyber-Security

Advisor: Dr. Ran Dubin, Dr. Amit Zeev Dvir

**2019 – 2021**                      **Ph.D. Computer Science, Ariel University, Israel**

Title of Doctoral Dissertation: Deep Learning Methods Based on Natural Language Processing and Speech Analysis for Speaker Change Detection & Diarization

Advisor: Prof. Boaz Ben-Moshe, Dr. Amit Zeev Dvir, Dr. Chen Hajaj

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### **3. Academic Ranks and Tenure in Institutes of Higher Education**

<b>Dates</b>	<b>Institution and Department</b>	<b>Rank/Position</b>
2024-Today	School of Computer Science, College of Management Academic Studies	Senior Lecturer
2024 - Today	Department of Computer Software Engineering, Ariel University, Israel	Lecturer
2022-2024	School of Computer Science, Ariel University, Israel	Lecturer
2021-2022	School of Computer Science, Ariel University, Israel	External Academic Staff - Lecturer

### **4. Offices in Academic Administration**

2023–Today: Undergraduate Final Project Manager, Ariel University, Israel

### **5. Scholarly Positions and Activities outside the Institution**

#### **Reviewing:**

2022 – Today Expert Systems With Applications

2022 – Today Interspeech

2022 – Today IEEE Access

### **6. Participation in Scholarly Conferences**

#### **Active Participation**

<b>Date</b>	<b>Name of Conference</b>	<b>Place</b>	<b>Subject of Lecture/Discussion</b>	<b>Role</b>
June, 2020	Interspeech 2021	Brno, Czech Republic	Word-Embedding Based Speaker Change Detection	Speaker
May, 2021	Afeka Tel Aviv Academic College of Engineering, Speech Recognition Annual Conference, 2021 (Hosted by Prof. Itshak Lapidot)	Bar-Ilan, Israel	Multilingual Speaker Diarization	Speaker



## 7. Invited Lectures\ Colloquium Talks

Date	Place of Lecture	Name of Forum	Presentation/Comments
August, 2024	Ariel University	Computer Science Colloquium	Multilingual ASR Systems
November, 2023	Ariel University	Computer Science Colloquium	The intersection between NLP and Speech Recognition

## 8. Research Grants

Role in Research	Co-Researchers	Topic	Funded by/Amount	Year	Score/Comments
Principal Investigator	Dr. Ran Dubin	Multilingual Audio DeepFake Detection	, Israel Ministry of Defense (MAFAT)	2024	Under Review
Principal Investigator	Prof. Boaz Ben-Moshe	Acoustic Drone Navigation	, Israel Ministry of Defense (MAFAT)	2022-2023	
Principal Investigator	Prof. Itshak Lapidot	Multilingual Speaker Change Detection	Afeka-Ariel Fund	2022-2023	
Principal Investigator	Prof. Amit Dvir Dr. Chen Hajaj Pro. Uzi Ben Shalom	Social Media Viral Posts Detection	Israel Innovation Authority - IIA	2019-2021	

## 9. Scholarships, Awards and Prizes

2021 National Cyber Directorate, Ariel University, Israel.

## 10. Teaching

### Courses Taught in Recent Years

Year	Course Name	Type: Lecture/Seminar/Workshop/High Learn Course/Introduction	Degree
2024 – Present	Deep Learning Methods to Real-Life Datasets and Problems	High Learn Course	B.Sc
2023	Object Oriented Programming	High Learn Course	B.Sc
2022 – Present	Advanced Topics in Computer Science	Seminar	B.Sc
2021 - Present	Deep Learning Methods Based on Natural Language Processing & Speech Recognition	High Learn Course	B.Sc



## **11. Professional Experience**

<b>11/22 – Current</b>	<b>MAIA.ai</b> Founder, Director of AI & Chief Data Scientist
<b>08/22 – Current</b>	<b>Sensei.ai</b> Senior Advisory Board Member
<b>09/22 – 06/23</b>	<b>L7-Defense</b> VP Research
<b>04/2021 – 08/22</b>	<b>Libona.ai</b> Founder, CEO & Chief Data Scientist @ Libonea.ai
<b>11/2019 - 04/2021</b>	<b>Elbit Systems LTD</b> Chief Data Scientist, Cyber-Intelligence Division
<b>08/2017 - 10/2019</b>	<b>IFAT Group</b> Head of Data Science
<b>09/2013 - 07/2017</b>	<b>Israel Ministry of Defense R&amp;D Division</b> Data Scientist

## **PUBLICATIONS**

### **A. Ph.D. Dissertation**

Topic: Deep Learning Methods Based on Natural Language Processing and Speech Analysis for Speaker Change Detection & Diarization

Approved: 2021

Language: English

Institute: Ariel University

Advisors: Prof. Boaz Ben-Moshe, Dr. Amit Zeev Dvir, Dr. Chen Hajaj

Brief Synopsis: Speaker Change Detection (SCD) is the task of segmenting an input audio-recording according to speaker interchanges. Many applications, such as Speaker Diarization (SD) or automatic speech transcription, are dependent on this segmentation task. Previous works have already shown that exploiting textual information can be of great use in correctly identifying the speaker interchanges and the overall diarization performance. In this Ph.D dissertation, we focus on the essential task of the SD problem. We suggest a solution for the SCD problem, as well as the assignment of clustering-based \_\_\_\_\_



speaker identities for the SD problem, and apply our solution over a multi-lingual dataset. As such, we propose a generic and language-independent framework for the SCD problem that is learned through textual information by using state-of-the-art transformer-based techniques, together with speech-embedding modules. Moreover, we show how to apply our solution for the SCD problem over SD systems. Comprehensive experimental evaluation shows that (i) our multi-lingual framework is competitive enough when compared to mono-lingual datasets, and that (ii) textual information improves solutions' quality compared to speech signal-based approach.

## **B. Articles in Refereed Journals**

- 1) **O. H. Anidjar**, R. Marbel, R. Dubin, A. Dvir, C. Hajaj, 2024, Extending Limited Datasets Based on GAN-Like Self-Supervision for SMS Fraud Detection, Elsevier, Computers and Security, IF=5.1, Q1
  - 2) **O. H. Anidjar**, R. Marbel, R. Yozevitch, 2024, Harnessing the Power of Wav2Vec2 and CNNs for Robust Speaker Identification on the VoxCeleb and LibriSpeech Datasets, Elsevier, Expert Systems With Applications, IF=8.5, Q1
  - 3) **O. H. Anidjar**, R. Lang, M. Mega, 2024, Transfer Learning Methods for Fractographic Detection of Fatigue Crack Initiation in Additive Manufacturing, IEEE Access Journal, IF=3.367, Q2
  - 4) A. Beriozkin, **O. H. Anidjar**, A. Azaria, N. Hazon, 2023, Machine Learning Approach to Predicting the Hysteresis of Water Retention Curves of Porous Media, Elsevier, Expert Systems With Applications, IF=8.5, Q1
  - 5) **O. H. Anidjar**, R. Yozevitch, N. Bigon, N. Abdalla, B. Myara, R. Marbel, 2023, Crossing Language Identification: *Multilingual* ASR Framework Based on Semantic Dataset Creation & Wav2Vec 2.0, Elsevier, Machine Learning With Applications, IF=6.5, Q1
  - 6) **O. H. Anidjar**, A. Barak, B. Ben-Moshe, E. Hagai, S. Tuvyahu, 2023, A Stethoscope for Drones: Transformers Based Methods for UAVs Acoustic Anomaly Detection, IEEE Access Journal, IF=3.367, Q2
  - 7) **O.H. Anidjar**, Yannick Estève, C. Hajaj, A. Dvir, I. Lapidot, 2022, Transformers and Speech Recognition Methods for Multilingual Speaker Change Detection & Diarization, Elsevier, Expert Systems With Applications, IF=8.5, Q1
  - 8) **O. H. Anidjar**, I. Lapidot, C. Hajaj, A. Dvir, I. Gilad, 2021, "Hybrid Speech and Text Analysis Methods for Speaker Change Detection", IEEE/ACM Transactions on Audio, Speech, and Language Processing, IF=3.906, Q1
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### **C. Articles in Conference Proceedings**

1. H. Casakin, H. Sopher, **O.H. Anidjar**, J.S. Gero, 2024, "Framing in design problem-solving: a computational semantic analytic approach", Education and research in Computer Aided Architectural Design in Europe (eCAADe), 2024, Core=**B**.
2. H. Casakin, H. Sopher, J.S. Gero, **O.H. Anidjar**, 2024, "The use of occurrences of ideas for constructing and characterizing the design space", International Conference on Engineering Design (ICED), The Design Society, 2024, Core=**B**.
3. **O. H. Anidjar**, I. Lapidot, C. Hajaj, A. Dvir, I. Gilad, 2021, A Thousand Words are Worth More Than One Recording, IEEE Signal Processing, Interspeech 2021, Core=**A**.
- 4.

### **D. Summary of My Research Activities and Future Plans**

My research lies at the intersection of applied research and theory. My goal is to explore the properties of common and daily problems that are solved through multidisciplinary methods from the world of Natural Language Processing and Speech Recognition. Mainly, my focus lies on problems such as Language Modeling, Speaker Change Detection, Speaker Diarization, Speaker Identification, and finding anomalies in textual databases. I believe in a multidisciplinary research approach; in particular, I have been using tools and results from mathematics, machine learning, and computer science. I draw inspiration for problems from practice, apply a principled approach to develop solutions, and transfer these solutions back to practice. I discover interesting and challenging practical problems through frequent discussions and meetings with people from the industry; in particular, I search for real-world Natural Language Processing & Speech Recognition problems that present an opportunity for making breakthroughs by applying a principled approach. I then tackle these problems by first applying principles, developing new methods, and transferring these solutions to practice in the form of working systems.

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