Adel Taleb, Ph.D.

✉ adel-taleb@outlook.com   in Adel Taleb
🌐 https://adel-taleb.github.io
📞 +33 6 51 69 81 42

Presentation

PhD in Computer Science with expertise in Machine Learning, Computer Vision, and Data Science, I have led several applied research projects in multidisciplinary environments, notably in collaboration with hospitals and research laboratories. Passionate about technological innovation, I am seeking new opportunities to contribute to the development of impactful solutions.

Employment History

2020 – 2024   **CIFRE PhD Candidate** SogetiLabs (Capgemini)

- Technical lead in Data Science at Sogeti.

- Supporting sales teams in responding to AI-related tenders.

- Supervision of interns and apprentices.

- Managed a team of 20 consultants for the development tasks of the research project.

- Preparation of the CIR (Research Tax Credit) audit defense file.

- Participation in a European call for tenders for the creation of an experimental third-place between Sogeti and the Assistance Publique-Hôpitaux de Paris.

2019 – 2020   **Data Scientist and Head of the Data/AI Division** SogetiLabs (Capgemini)

- Management and participation in Data/AI projects at SogetiLabs.

- Technical evaluation of candidates for data science and Python development positions.

2018 – 2019   **Apprentice Data Scientist** SogetiLabs (Capgemini)

- Cognitive QA: Development of various NLP components of the tool.

- Contract anonymization project at Capgemini: Used deep learning techniques for entity recognition and anonymization of confidential contracts.

- R&D project in NLP: Named entity recognition to build SPARQL queries from natural language in French, in collaboration with the Institut Curie.

- Quality Tracker: Tool for detecting and segmenting damaged car parts in photos (CNN, RCNN).

- R&D project in collaboration with the Hôpital de Garches: Developed a Deep Learning component to estimate the wake-up time of comatose patients (time series classification using LSTM).

2017 – 2018   **Co-head of the Event Planning Division** TEDx Paris Descartes

- Organization of the first TEDx Paris Descartes event: Watch the videos.

Education

2020 – 2024   **PhD in Computer Science, Statistics, and Cognition.** Université PSL, CHArt Laboratory.
Thesis Title: *Motor Analysis in Infants and Adults*.

- **Study of General Movements in Infants Using Machine Learning:** Conducted an advanced state-of-the-art review on general movements and extracted spatiotemporal descriptors using computer vision methods.

- **Adaptation of Pose Estimation Models for Infants:** Optimized deep learning models for pose detection and tracking in video data with a limited number of samples.

- **Development of a Classification Model for Spinal Muscular Atrophy and XAI:** Created a classification pipeline based on features extracted from movement sequences, incorporating supervised learning methods to provide a pre-diagnosis from videos, taking clinical acceptability into account by implementing explainability methods (XAI).

- **Biomechanical Analysis of Gait:** Introduced a new method based on dynamic movement analysis using the concept of barycenter, with application to automatic detection of hemiplegic gait in adults (patented method).

- Developed several data collection protocols in compliance with personal data protection requirements.

- Participated in the creation of the research platform R2P2.

2017 – 2019   **Master's in Machine Learning for Data Science** Université Paris Descartes

- Document embedding quality measurement (Text Mining).

- Implementation of a Generative Adversarial Network (GAN) for pseudo-labeling (Deep Learning).

- Deep learning for dimensionality reduction.

- AI4Eye Project: Designed a learning model for video image recognition and interpretation for visually impaired individuals, with near and far distance estimation.

- Developed a recommendation system based on user-based collaborative filtering and evaluated recommendation quality by applying various clustering methods and comparing clusters before and after recommendation.

Publications

Journal Articles

1. **A. Taleb**, P. Rambaud, S. Diop, *et al.*, "Spinal muscular atrophy hypotonia detection using computer vision and artificial intelligence," *JAMA pediatrics*, vol. 178, no. 5, pp. 500–502, 2024.

Conference Proceedings

1. **A. Taleb**, S. Diop, P. Rambaud, *et al.*, "Improve pose estimation model performance with unlabeled data," in *2023 Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE)*, IEEE, 2023, pp. 1316–1321.

2. P. Rambaud, **A. Taleb**, R. Fauches, A. Rimmel, J. Tomasik, and J. Bergounioux, "Binary classification vs. anomaly detection on imbalanced tabular medical datasets," in *2023 Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE)*, IEEE, 2023, pp. 01–05.

Patents

1. **A. Taleb**, J. Bergounioux, A. Perrier, F. Jouen, and R. Fauches, *The use of barycenters in dynamic movement analysis*, AP-HP, Europe, Patent granted by the European Patent Office, Oct. 2023.

Technical skills

Languages	▐	English, French, and Arabic (reading, writing, and speaking)
Coding	▐	Python, R, Java, SQL, XML/XSL, LaTeX.
Databases	▐	MySQL, PostgreSQL, SQLite.
Web Dev	▐	HTML, CSS, JavaScript, Apache Web Server, WordPress.
Misc.	▐	Academic research, LaTeX typesetting and publishing.

Soft skills

▐ Ability to adapt to change in a corporate environment.

▐ Ability to simplify technical terms.

▐ Ability to propose solutions.

▐ Strong analytical skills.

▐ Teamwork skills.

Refree

▐ **Pr Jean Bergounioux** Head of Pediatric Intensive Care Unit at CHU Raymond Poincaré, PhD Supervisor.
Email: jean.bergounioux@aphp.fr

▐ **Raphael Fauches, PhD** Director of Research at Capgemini (2019–2023).
Email: raphael.fauches@gmail.com

▐ **M. Romain Henry** Head of Innovation and Manager at Capgemini (2016–2023).
Email: romain.henri@gmail.com