



Research topics	Next-Generation AI for Neurovascular Imaging – ERC Consolidator Grant CARAVEL
Position (M/F)	Post-Doctoral
Reference offer	DS/MAZ/CARAVEL/042026
Research Department	Data Science
Publication date	27/04/2026
Start date	September 1st 2026
Duration	Fixed Term Contract of 2 years with 1+1 year extension possibilities if legally applicable

Description

We are seeking a postdoctoral researcher to develop novel AI and machine learning methods for modeling the brain vascular network from multimodal medical imaging data, within an ERC-funded project.

Join our team within the ERC Consolidator Grant *CARAVEL*, a cutting-edge project developing next-generation AI methods to extract, model, and analyze the brain vascular network from multimodal medical imaging, with applications to neurovascular aging.

The successful candidate will play a central role in shaping the project's computational and modeling components. This includes developing novel approaches for neurovascular representation and analysis, with flexibility to explore directions such as graph-based modeling and derived metrics, efficient and scalable learning methods, and integration across imaging modalities.

As an early-stage ERC project, *CARAVEL* offers significant room for scientific initiative. The postdoctoral researcher will work closely with PhD students across multiple work packages, contribute to structuring the methodological developments, and collaborate with clinical partners to ensure relevance and impact.

Key Responsibilities:

- Lead the development of novel AI and machine learning methods for the analysis and modeling of the brain vascular network from multimodal medical imaging data.
- Contribute to the design and structuring of the project's computational and modeling components, in close interaction with ongoing work packages.
- Collaborate with PhD students and contribute to the supervision and coordination of methodological developments across the project.
- Work closely with clinical partners to ensure the relevance of the developed methods and support their application to neurovascular aging studies.
- Disseminate research outcomes through publications in leading conferences and journals, and contribute to open-source software development.
- Contribute to the overall scientific direction and visibility of the *CARAVEL* project.
- Actively participate in and contribute to the group's research activities, including regular team meetings and scientific discussions.
- Contribute to teaching activities through lab assistance and student evaluation.

About the team. The successful candidate will be hosted within the AI4Health@EURECOM research group led by Prof. Maria A. Zuluaga. Prof. Zuluaga holds an ERC Consolidator Grant, providing access to cutting-edge research infrastructure and fostering a vibrant and competitive research environment. The successful candidate will benefit from such a dynamic and collaborative research environment. *CARAVEL* fosters strong interdisciplinary collaborations, providing opportunities to interact with researchers from diverse backgrounds, including national (Grenoble Institute of Neurosciences) and international (King's College London) institutions, as well as clinical institutes (CHU Nice and Guy's and St Thomas Hospitals).

Requirements

- PhD in Computer Science, Applied Mathematics, Biomedical Engineering, or a related field.
- Strong research track record in machine learning and/or AI, ideally with applications to medical imaging, computer vision, or structured data.

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- Solid experience in developing and implementing deep learning methods, with the ability to design and evaluate novel approaches.
- Strong programming skills (e.g., Python, PyTorch) and experience with research-oriented code development.
- Experience in medical image analysis and/or modeling structured or relational data (e.g., graph-based or geometric approaches) is a plus, but not required.
- Ability to work both independently and collaboratively in an interdisciplinary research environment.
- Strong analytical thinking and problem-solving skills.
- Excellent written and oral communication skills in English, with demonstrated ability to publish and present research.

Application

The application must include:

- Detailed curriculum vitae,
- A cover letter stating your motivation and fit for this project
- Name and address of three references.
- List of publications

Applications should be submitted by e-mail to secretariat@eurecom.fr with the reference: **DS/MAZ/CARAVEL/042026** before **May 15th, 2026**.

About EURECOM

EURECOM is a major Engineering School and a Research Center in digital sciences founded in 1991 as a consortium in the international technology park of Sophia Antipolis. The IMT is a founding member of the GIE. Teaching and research activities are organized around 3 promising fields: digital security, communication systems and Data Science.

EURECOM has a staff of 190 (researchers and support teams) and welcomes 400 international students on the Campus Sophia Tech, the largest information science and technology campus of the region. EURECOM enjoys a privileged geographical environment on the French Riviera (Côte d'Azur), between sea and mountains, at the heart of a dynamic and multidisciplinary ecosystem that promotes high-level scientific and technological innovation.

Social advantages

- International and multicultural environment
- Attractive salary - Corporate saving plans
- Private retirement plan (executive, employer participation of 100%)
- Employee profit-sharing policy
- Company health insurance (mutuelle) with high levels of guarantees for the whole family (employer participation of 60%)
- Restaurant vouchers (employer contribution of 60%)
- Corporate and Social Council (CSE)

EURECOM is one of Europe's leading engineering schools specializing in digital technologies. It is located in the heart of the Côte d'Azur, in Europe's Silicon Valley (Tech Park Sophia-Antipolis). EURECOM's research teams work in an international, multicultural environment.

EURECOM has a dynamic policy in terms of **inclusion and quality of life at work**. We are committed to diversity and give equal consideration to all applicants, without discrimination. Above all, we look for competence and team spirit.

All our positions are open to **people with disabilities**. EURECOM has set up a disability advisor to provide support and advice, organize accommodation and make positive commitments to personal integration.

As part of its **gender equality plan**, EURECOM encourages gender diversity within its teams. As part of our gender equality action plan, we encourage male applications for administrative positions, traditionally held by women, and female applications for IT and research positions, traditionally held by men.

EURECOM is taking positive action as part of its **CSR policy**. A CSR representative oversees EURECOM's CSR and energy transition policies (electric charging stations, solar panels, waste sorting, etc.).

Web site EURECOM: <https://www.eurecom.fr/fr/eurecom/presentation>

EURECOM in VIDEO: <https://www.youtube.com/watch?v=ullFcgNijnM>

Employee experience: <https://www.youtube.com/watch?v=BHv9zlduzuQ>