

=== 6-month Internship available at Inria Sophia Antipolis, France ===

Title: Text auto-illustration for improving reading accessibility to low-vision people

Background and objectives

Low vision is a condition caused by eye disease which cannot be corrected or improved with regular eyeglasses. Retinal-degeneration disorders concern 285 million people in the world and it is predicted that prevalence of visual disabilities will increase markedly during the next 20 years. These disorders characterised by a progressive retinal degeneration not only in photoreceptors but also in the overall structure of the retina. So there is a real societal and scientific challenge to provide new solutions to help low vision people in their daily life activities. Among them, reading poses problems for almost everyone with low vision and it is amongst the strongest need reported by patients.

The BIOVISION team is currently working on a project to bring reading experience to a higher level of immersivity by providing a highly customizable visualization software running on phone-based virtual reality platforms. In this context, in collaboration with the WIMMICS team, we propose to explore text auto-illustration methods, consisting in automatically extracting image from the web which are related to the text, to make reading more efficient and enjoyable for low vision patients.

During the internship, the successful candidate will be responsible for:

- investigating NLP methods to extract concepts and entities contained in some text and link them to online image contents.
- once images are collected, he/she will apply image processing methods to create meaningful visual content from a selection of ranked images representing the entities found.

Candidate profile

The successful candidate will have the following profile:

- Msc or MA Student in Computer Science, or Computational Linguistics.
- Experience in Natural Language Processing, Artificial Intelligence and/or Machine Learning;
- Excellent programming skills;
- Strong interest in working in a multidisciplinary context made of computer scientists of different fields (NLP and image processing), and motivated my medical applications.

Terms of the internship position

- Duration: 6 months
- Starting date: asap
- Location: Inria, Sophia Antipolis, France (<https://www.inria.fr/en/centre/sophia>)
- Hosting teams: BIOVISION (<https://team.inria.fr/biovision/>) and WIMMICS (<http://wimmics.inria.fr/>).
- Internship grant: 1200€ / month (net salary).

Applications

- A curriculum vitae together with a motivation letter should be sent to Pierre Kornprobst (pierre.kornprobst@inria.fr) and Elena Cabrio (elena.cabrio@unice.fr)
- Deadline for applications: position open until filled.