

# Claudiu Tănase

## Curriculum Vitae

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## Summary of Qualifications

I have an academic background in content-based multimedia retrieval, a challenging research problem that lies at the intersection of computer vision, machine learning and big data. I graduated in 2009 on a traditional Software Engineering curriculum. During my PhD thesis I developed visual feature extraction frameworks that handled hundreds of hours of video, and applied a wide range of statistical learning techniques, both discriminative and deep. Since 2014 I have improved my understanding of modern database systems and distributed computing, and extended my focus to realtime, interactive video search.

## Experience

2014–2016 **Post-doctoral Researcher**, *Databases and Information Systems*, University of Basel, Switzerland.

As part of the core team of project [IMOTION](#), I contributed to integrating *motion*- and *sketch*-based retrieval from large video collections. I also worked on designing and computing semantic features from convolutional neural network classifiers.

## Projects

- I am an admin of [vitriivr](#), the open source large scale video retrieval engine. In this quality I mentored as part of Google Summer of Code 2016.
- Participated in the TRECVID challenge SIN 2011-2013 and AVS 2016.
- Participated in the Video Browser Showdown 2016, 2017

## Summary of Skills

domain	relevant methods	relevant technologies
machine learning	classification, regression, clustering	scikit-learn, MATLAB
data science	data preprocessing, visualization	Python (NumPy, pandas, matplotlib, jupyter)
deep learning	CNNs, LSTMs	Caffe, Torch, TensorFlow
computer vision	feature extraction, coding, video preprocessing	OpenCV, BoofCV, ffmpeg
data storage	indexing & retrieval	Scala, Apache Spark, PostgreSQL, Hadoop, Cassandra
development	programming, version control	C, C++, Java, Git, Hg
information retrieval	bag of words, tf-idf, topic models	NLTK, gensim, Solr

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## Education

- 2010–2014 **Ph.D. in Signal Processing**, *Eurecom*, Sophia Antipolis, France.  
Thesis “Towards effective spatio-temporal analysis for content-based video retrieval”
- 2009–2010 **M.S. in Computer Science**, *INP-ENSEEIH*T, Ecole Nationale Supérieure d’Electrotechnique, d’Electronique, d’Informatique, d’Hydraulique et des Télécommunications, Toulouse, France.
- 2004–2009 **B.S. in Computer Science**, *Politehnica University Bucharest*, Romania.

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## Languages

- Romanian **Mother tongue**  
English **Full professional proficiency**  
French **Full professional proficiency**  
German **A1**

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## References

Available upon request

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## Selected Publications

- “vitivr - a flexible retrieval stack supporting multiple query modes for searching in multimedia collections,” in *Proceedings of the ACM Multimedia Conference 2016 (ACM MM’16)*, Amsterdam, The Netherlands. ACM, 2016.
- “Semantic sketch-based video retrieval with autocompletion,” in *Companion Publication of the 21st International Conference on Intelligent User Interfaces*. ACM, 2016, pp. 97–101.
- “Searching in video collections using sketches and sample images—the Cineast system,” in *International Conference on Multimedia Modeling*. Springer International Publishing, 2016, pp. 336–341.
- “IMOTION—searching for video sequences using multi-shot sketch queries,” in *International Conference on Multimedia Modeling*. Springer International Publishing, 2016, pp. 377–382.
- “iAutoMotion—an autonomous content-based video retrieval engine,” in *International Conference on Multimedia Modeling*. Springer International Publishing, 2016, pp. 383–387.
- “Dealing with ambiguous queries in multimodal video retrieval,” in *International Conference on Multimedia Modeling*. Springer International Publishing, 2016, pp. 898–909.
- “Introducing motion information in dense feature classifiers,” in *Image Analysis for Multimedia Interactive Services (WIAMIS), 2013 14th International Workshop on*. IEEE, 2013, pp. 1–4.
- “Semantic concept detection using dense codeword motion,” in *Advanced Concepts for Intelligent Vision Systems*. Springer, 2013, pp. 705–713.
- “Efficient spatio-temporal edge descriptor,” in *Advances in Multimedia Modeling*. Springer, 2012, pp. 210–221.