RUI DAI

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Domain of Interest : Computer Vision, Action understanding, Transfer learning

EDUCATION

- **Inria** — Nice, France
  Department of Informatics — *Oct. 2018 - Sep. 2022*
  Ph.D. Candidate in *Computer Vision and Machine Learning*
- **Université de Toulouse - ENSEEIHT** — Toulouse, France
  Grand Ecole, Department of Electronique — *Sep. 2016 - Sep. 2018*
  Master degree and Engineer degree in *Signal and Image processing*
- **Beihang University** — Beijing, China
  Department of Computer Science — *Aug. 2012 - Jul. 2016*
  Bachlor degree in *Information and Computational Science*

STRENGTHS

Program Languages	Python, C++, MATLAB, R
Software & Tools	Pytorch, TensorFlow, Keras, LaTeX, Bash, Git, MySQL
Languages	English : Fluent, French : Fluent, Chinese : Native

RECENT EXPERIENCE

- **STARS team, Inria** — Sophia Antipolis, France
  Ph.D. Candidate, supervised by Francois Bremond — *Oct. 2018 - Present*
  · Temporal action localization in untrimmed video using deep learning methods.
  · Funded by Toyota Motor Europe (TME) and Université Cote d'Azur
- **VISAGES team, Inria** — Rennes, France
  Research Intern, supervised by Christian Barillot — *Mar. 2018 - Sep. 2018*
  · Analysis inflammatory optic neuropathy using multi-compartment model.
- **BIGR team, Erasmus Medical Center** — Rotterdam, Netherlands
  Research Intern, supervised by Stefan Klein — *Jun. 2017 - Aug. 2017*
  · Classifying the malignancy of glial tumors by using machine learning approaches.

TEACHING

- Lecture and TA, MSc for Data Science and Artificial Intelligence, 3IA Cote d'Azur, France

ACADEMIC SERVICES

Reviewer : Medical Image Analysis (MedIA), CVPR, ICCV, WACV

PATENT

- EP20306343.3 : Method and system for detecting an action in a video clip.
- PCT/EP2019/077656 : Method for recognizing activities using separate spatial and temporal attention weights.

PUBLISHED PAPERS

[1] **R. Dai**, S. Das, L. Minciullo, L. Garattoni, G. Francesca and F. Bremond. PDAN : Pyramid Dilated Attention Network for Action Detection. In Proceedings of *the IEEE Winter Conference on Applications of Computer Vision, WACV 2021*, Virtual, January 5-9, 2021.

[2] D. Yang, **R. Dai**, Y. Wang, R. Mallick, L. Minciullo, G. Francesca and F. Bremond. Selective Spatio-Temporal Aggregation Based Pose Refinement System : Towards Understanding Human Activities in Real-World Videos. In Proceedings of *the IEEE Winter Conference on Applications of Computer Vision, WACV 2021*, Virtual, January 5-9, 2021.

[3] S. Das, S. Sharma, **R. Dai**, F. Bremond and M. Thonnat. VPN : Learning Video-Pose Embedding for Activities of Daily Living. In Proceedings of *the 16th European Conference on Computer Vision, ECCV 2020*, arXiv :2007.03056, online, UK, 23-28 August 2020.

[4] **R. Dai**, L. Minciullo, L. Garattoni, G. Francesca and F. Bremond. Self-Attention Temporal Convolutional Network for Long-Term Daily Living Activity Detection. In Proceedings of the *14th IEEE International Conference on Advanced Video and Signal-Based Surveillance, AVSS 2019*, in Taipei, Taiwan, 18-21 September 2019. (Oral)

[5] S. Das, **R. Dai**, M. Koperski, L. Minciullo, L. Garattoni, F. Bremond and G. Francesca. Smarthome : Real World Activities of Daily Living. In Proceedings of *the 17th International Conference on Computer Vision, ICCV 2019*, in Seoul, Korea, October 27 to November 2, 2019.

PAPERS UNDER REVISION

[1] **R. Dai**, S. Das, S. Sharma, L. Minciullo, L. Garattoni, F. Bremond, and G. Francesca. Toyota Smarthome Untrimmed : Real-World Untrimmed Videos for Activity Detection. (TPAMI under-review)
[2] **R. Dai**, S. Das, and F. Bremond. Learning a compact RGB representation with cross-modal knowledge distillation for action detection.
[3] S. Das, **R. Dai**, and F. Bremond. An offshoot of distillation : Rethinking Video-Pose embeddings for understanding Activities of Daily Living.