

RUI DAI

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Domain of Interest : Video Understanding, Action Recognition & Detection

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*
Bachelor degree in *Information and Computational Science*

STRENGTHS

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

RESEARCH EXPERIENCE

- **STARS team, Inria** Nice, France
Ph.D. Candidate, supervised by Francois Bremond *Oct. 2018 - Present*
 - Funded by Toyota Motor Europe (TME) and Université Cote d'Azur
 - Personal Monitoring Committee : *Karteeek Alahri*(Inria), *Pierre Kornprobst*(Inria)
- **VISAGES team, Inria** Rennes, France
Research Intern, supervised by Christian Barillot *Mar. 2018 - Sep. 2018*
- **Thales Alenia Space** Toulouse, France
Research Project *Jan. 2018 - Mar. 2018*
- **BIGR team, Erasmus Medical Center** Rotterdam, Netherlands
Research Intern, supervised by Stefan Klein *Jun. 2017 - Aug. 2017*

TEACHING

- Lecture and TA of the MSc. Data Science and Artificial Intelligence at Interdisciplinary Institutes of Artificial Intelligence (3IA), France.

ACADEMIC EVENTS

Summer School : SMILES2020, EEML2021, CIFAR-DLRL2021, OxML2021

ACADEMIC SERVICES

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

EUROPEAN PATENT

- WO2021069945A1 : Method for recognizing activities using separate spatial and temporal attention weights.
- EP20306343.3 : Method and system for detecting an action in a video clip. (submitted)

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. (submitted to TPAMI)
- [2] **R. Dai**, S. Das, and F. Bremond. Learning a compact RGB representation with cross-modal knowledge distillation for action detection. (submitted to ICCV21)
- [3] S. Das, **R. Dai**, D. Yang and F. Bremond. VPN++ : Rethinking Video-Pose embeddings for understanding Activities of Daily Living. (submitted to TPAMI)
- [4] **R. Dai**, S. Das, and F. Bremond. Class Temporal Relational Network for Action Detection. (submitted to BMVC21)