

# RUI DAI

85 Rue Henri Poincare 06410, Biot, France

✉ rui.dai@inria.fr ☎ (+33) 06.61.07.75.20 💻 dairui01.github.io

**Domain of Interest :** Video Understanding, Action Recognition & Detection

## EDUCATION

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- **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

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

## RESEARCH EXPERIENCE

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- **STARS team, Inria** Nice, France  
*Ph.D. Candidate, supervised by Francois Bremond* *Oct. 2018 - Present*
  - Funded by Toyota Motor Europe and Université Cote d'Azur
  - Personal Monitoring Committee : *Karteeek Alahari*(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

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

## ACADEMIC EVENTS

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

## ACADEMIC SERVICES

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

## EUROPEAN PATENT

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- 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

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- [1] **R. Dai**, S. Das, and F. Bremond. Learning a compact RGB representation with cross-modal knowledge distillation for action detection. In *Proceedings of the 18th International Conference on Computer Vision, ICCV 2021*, Virtual, October 11-17, 2021.
- [2] **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.
- [3] 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.
- [4] 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.
- [5] **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)
- [6] 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

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- [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] S. Das, **R. Dai**, D. Yang and F. Bremond. VPN++ : Rethinking Video-Pose embeddings for understanding Activities of Daily Living. (submitted to TPAMI)
- [3] **R. Dai**, S. Das, and F. Bremond. Class Temporal Relational Network for Action Detection. (submitted to BMVC2021)