Damien Dupré

Assistant Professor at
DCU Business School

Glasnevin Avenue, Dublin 9, Ireland
 +353 (0)1 700 6360
✉ *damien.dupre@dcu.ie*
 damien-datasci-blog.netlify.app/
in *damien-dupre*
 damien_dupre
 damien-dupre

A French data scientist living in Dublin, interested in
affective computing, expert in time series modelling and
passionate about R.

🎲 Research Foci

Emotion, User Experience, Facial Expression, Wearable Devices, Physiology, Human Computer Interactions, Spatial and Time Analyses

🎓 Education

2016   Industrial Ph.D.. Université Grenoble-Alpes, France

2010   M.Sc.. Université Grenoble-Alpes, France

2007   B.Sc.. Université Grenoble-Alpes, France

💼 Professional Experience

2018 – Now   **Assistant Professor**, *Dublin City University, Ireland.*
- Business reseach methods at DCU Business School

2018   **Academic PostDoc.**, *University College Dublin, Ireland.*
- Athletes' performance prediction using machine learning

2016 – 2018   **Industrial PostDoc.**, *Sensumco Ltd., United Kingdom.*
- Evaluation of emotions from facial and physiological measures

2016   **Visiting Research Fellow**, *Queen's University of Belfast, United Kingdom.*
- Empathy skills assessment with facial expression recognition

2011 – 2015   **UX Researcher**, *SAS IXIADE, France.*
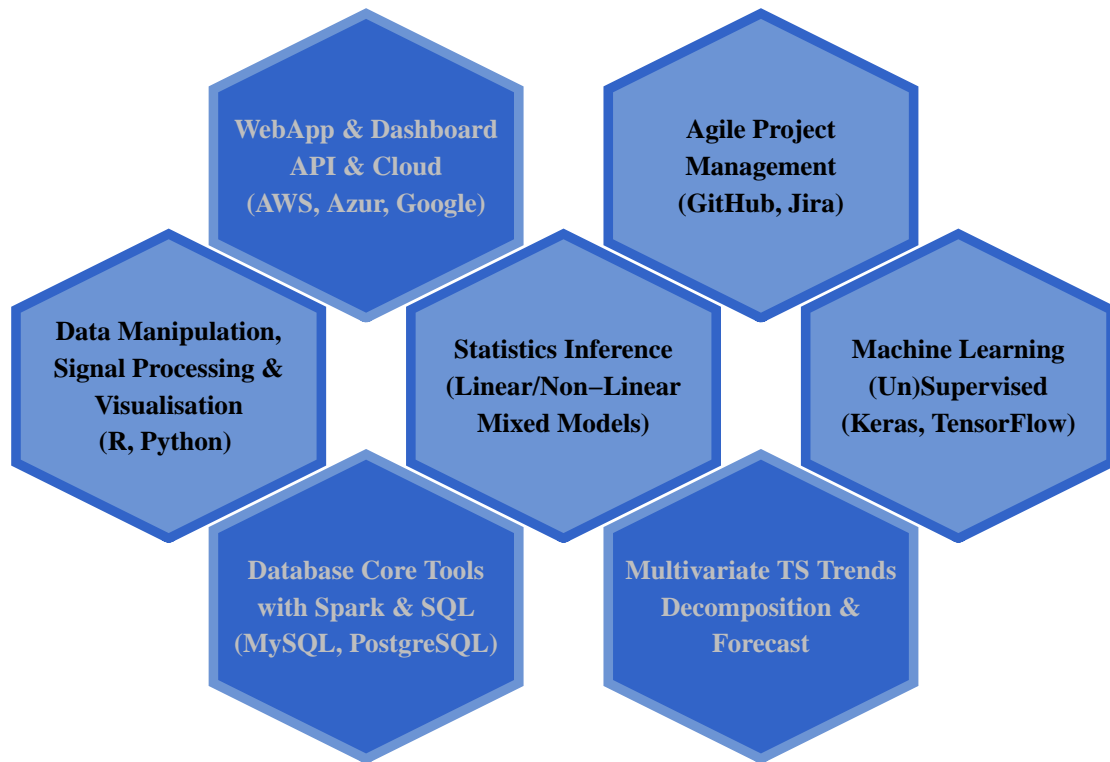- Evaluation of users' acceptance with innovative services and products

2010 – 2011   **Research Assistant**, *Université Grenoble-Alpes, France.*
- Validation and dissemination of an e-learning software

2009 – 2013   **Research Assistant**, *Université Grenoble-Alpes, France.*
- Development of a dynamic and spontaneous facial expressions database

⚙ Skills

WebApp & Dashboard
API & Cloud
(AWS, Azur, Google)

Agile Project
Management
(GitHub, Jira)

Data Manipulation,
Signal Processing &
Visualisation
(R, Python)

Statistics Inference
(Linear/Non–Linear
Mixed Models)

Machine Learning
(Un)Supervised
(Keras, TensorFlow)

Database Core Tools
with Spark & SQL
(MySQL, PostgreSQL)

Multivariate TS Trends
Decomposition &
Forecast

🏭 Patents

Morrison, G., Mccourt, S., Mc Keown, G. J., Fyans, C., & **Dupré, D.** (2019). *Systems and methods for combining and analysing human states.* Retrieved from `https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019086856`

Morrison, G., Mccourt, S., Mckeown, G. J., Fyans, C., **Dupré, D.**, & Moore, D. S. (2019). *Systems and methods for estimating human states.* Retrieved from `https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019086861`

📘 Peer-reviewed Publications

Dupré, D., Andelic, N., Moore, D., Morrison, G., & McKeown, G. J. (2020). Analysis of physiological changes related to emotions during a zipline activity. *Sports Engineering.* `https://doi.org/10.1007/s12283-020-00328-9`

Dupré, D., Krumhuber, E. G., Küster, D., & McKeown, G. J. (2020). A performance comparison of eight commercially available automatic classifiers for facial affect recognition. *Plos One*, *15*(4), e0231968. `https://doi.org/10.1371/journal.pone.0231968`

Dupré, D., Dubois, M., & Tcherkassof, A. (2018). Rôle de l'émotion dans l'acceptabilité d'un produit: évaluation des composantes cognitive, motivationnelle et subjective. *Psychologie du Travail et des Organisations*, *24*(4), 313–324. `https://doi.org/10.1016/j.pto.2017.07.001`

Dupré, D., Akpan, D., Elias, E., Adam, J.-M., Meillon, B., Bonnefond, N., . . . Tcherkassof, A. (2015). Oudjat: A configurable and usable annotation tool for the study of facial

expressions of emotion. *International Journal of Human-Computer Studies*, *83*, 51–61. https://doi.org/10.1016/j.ijhcs.2015.05.010

Dubois, M., **Dupré, D.**, Adam, J.-M., Tcherkassof, A., Mandran, N., & Meillon, B. (2013). The influence of facial interface design on dynamic emotional recognition. *Journal on Multimodal User Interfaces*, *7*(1-2), 111–119. https://doi.org/10.1007/s12193-012-0103-y

Tcherkassof, A., **Dupré, D.**, Meillon, B., Mandran, N., Dubois, M., & Adam, J.-M. (2013). DynEmo: A video database of natural facial expressions of emotions. *The International Journal of Multimedia & Its Applications*, *5*(5), 61–80. https://doi.org/10.5121/ijma.2013.5505

Dupré, D., Salem, H. T. A., Loiseau, M., Dessus, P., & Simonian, S. (2012). Quelques critères d'utilisation d'un système d'évaluation automatique de synthèses de cours à distance. *Recherches & Educations*, (6), 143–159. Retrieved from https://journals.openedition.org/rechercheseducations/1231

Dessus, P., Trausan-Matu, S., Wild, F., **Dupré, D.**, Loiseau, M., Rebedea, T., & Zampa, V. (2011). Un environnement personnel d'apprentissage évaluant des distances épistémiques et dialogiques. *Distances et Savoirs*, *9*(4), 473–492. https://doi.org/10.3166/DS.9.473-492

📄 Conference Proceedings

Dupré, D., Andelic, N., Moore, D., Morrison, G., & McKeown, G. J. (2018). Multivariate body area network of physiological measures "in the wild": A case study with zipline activity. In R. Grant, T. Allen, A. Spink, & M. Sullivan (Eds.), *Proceedings of the 11th international conference on methods and techniques in behavioral research* (pp. 217–223). Retrieved from https://www.measuringbehavior.org/mb2018/Publications.html

Dupré, D., Andelic, N., Morrison, G., & McKeown, G. J. (2018). Accuracy of three commercial automatic emotion recognition systems across different individuals and their facial expressions. In K. David, T. Okoshi, & I. Hübener (Eds.), *Proceedings of the international conference on pervasive computing and communications workshops* (pp. 627–632). https://doi.org/10.1109/PERCOMW.2018.8480127

Dupré, D., Andelic, N., Morrison, G., & McKeown, G. J. (2018). Dynamic analysis of automatic facial expressions recognition in the wild 'using generalized additive mixed models and significant zero crossing of the derivatives. In R. Bond, M. Mulvenna, J. Wallace, & M. Black (Eds.), *Proceedings of the 32nd international BCS human computer interaction conference* (pp. 1–8). https://doi.org/10.14236/ewic/HCI2018.1

Dupré, D., McKeown, G. J., Andelic, N., & Morrison, G. (2018). Willingness to share emotion information on social media: Influence of personality and social context. In F. Bonchi & F. Provost (Eds.), *Proceedings of the 5th international conference on data science and advanced analytics* (pp. 665–672). https://doi.org/10.1109/DSAA.2018.00086

Dupré, D., Bland, B., Bolster, A., Morrison, G., & McKeown, G. J. (2017). Dynamic model of athletes' emotions based on wearable devices. In A. Tareq (Ed.), *Proceedings of the international conference on applied human factors in sports, injury prevention and outdoor recreation* (pp. 42–50). https://doi.org/10.1007/978-3-319-60822-8_4

Dupré, D., Booth, A., Bolster, A., Morrison, G., & McKeown, G. J. (2017). Dynamic analysis of automatic emotion recognition using generalized additive mixed models. In J. Bryson, M. De Vos, & J. Padget (Eds.), *Proceedings of the annual convention of the society for*

the study of artificial intelligence and simulation for behaviour: Society with AI (pp. 158–163). Retrieved from `http://aisb2017.cs.bath.ac.uk/proceedings.html`

McKeown, G. J., Spencer, C., Patterson, A., Creaney, T., & **Dupré, D.** (2017). Comparing virtual reality with computer monitors as rating environments for affective dimensions in social interactions. In C. Busso & J. Epps (Eds.), *Proceedings of the 7th international conference on affective computing and intelligent interaction* (pp. 464–469). `https://doi.org/10.1109/ACII.2017.8273640`

Dupré, D., Tcherkassof, A., Dubois, M., & Pizelle, P. (2016). Etude de l'expérience utilisateur émotionnelle: Quels sont les impacts des émotions suscitées des produits innovants sur les perceptions des utilisateurs? In C. Lemoine, V. Majer, P. Salengros, & A. Di Fabio (Eds.), *Proceedings of the association internationale de psychologie du travail de langue franaise conference: Effets des modes d'organisation au travail* (pp. 19–30). Retrieved from `https://www.editions-harmattan.fr/index.asp?navig=catalogue&obj=livre&no=49691`

Dupré, D., Tcherkassof, A., & Dubois, M. (2015). Emotions triggered by innovative products: A multi-componential approach of emotions for user experience tools. In J. Tao, T. Tan, & R. W. Picard (Eds.), *Proceedings of the 6th international conference on affective computing and intelligent interaction* (pp. 772–777). `https://doi.org/10.1109/acii.2015.7344657`

Dupré, D., Dubois, M., Tcherkassof, A., & Pizelle, P. (2012). Measuring emotional states and behavioral responses to innovative design. In J. Brassett, J. McDonnell, P. Hekkert, G. Ludden, & J. van Erp (Eds.), *Proceedings of the 8th international conference on design and emotion: Out of control* (pp. 1–8). `https://doi.org/10.5281/zenodo.2596981`

Loiseau, M., **Dupré, D.**, & Dessus, P. (2011). Pensum, un système d'aide à la compréhension de cours à distance. In M. Bétrancourt, C. Depover, V. Luengo, B. De Lièvre, & G. Temperman (Eds.), *Proceedings of the environnements informatiques pour l'Apprentissage humain conference: A la recherche des convergences entre les acteurs des eiah* (pp. 287–299). Retrieved from `https://hal.archives-ouvertes.fr/hal-00598788`

Dupré, D., Dubois, M., Mandran, N., & Tcherkassof, A. (2010). Emotional facial expression interface: Effects of displayed facial designs. In G. Calvary & M. Wolff (Eds.), *Proceedings of the ergonomie et informatique avancee conference* (pp. 37–43). `https://doi.org/10.1145/1868650.1868657`

Meillon, B., Tcherkassof, A., Mandran, N., Adam, J.-M., Dubois, M., **Dupré, D.**, ... Caplier, A. (2010). DynEmo: A corpus of dynamic and spontaneous emotional facial expressions. In M. Kipp, J.-C. Martin, P. Paggio, & D. Heylen (Eds.), *Proceedings of international workshop series on multimodal corpora, tools and resources. Multimodal corpora: Advances in capturing, coding and analyzing multimodality* (pp. 31–36). Retrieved from `http://www.lrec-conf.org/proceedings/lrec2010/workshops/W6.pdf`

💬 Talks

July 22, 2020 **Facial and physiological expressions of emotion, with a look at bias**, *Dupré, D.*, Online.
- CX Emotion Conference

July 9, 2020 **Data analytics for behavioral research**, *Dupré, D.*, Online.
- Summer School on Behavioral and Neuroscientific Research for Economics, Finance and Accounting

July 11-13, 2019 **Accuracy of automatic emotion recognition from voice**, *Dupré, D. & McKeown, G. J.*, Amsterdam, The Netherlands.
- Conference of the International Society for Research on Emotion

July 2, 2019 **Data analytics for behavioral research**, *Dupré, D.*, Dublin, Ireland.
- Summer School on Behavioral and Neuroscientific Research for Economics, Finance and Accounting

April 4-6, 2018 **A comparison of three commercial systems for automatic recognition of spontaneous facial expressions**, *Dupré, D. & McKeown, G. J.*, Glasgow, United Kingdom.
- Consortium of European Research on Emotion

July 26-29, 2017 **Physiological correlates of emotions "in the wild": A case study with mountain bikers.**, *Dupré, D., Morrison, G., & McKeown, G. J.*, St. Louis, Missouri.
- Conference of the International Society for Research on Emotion

March 26-28, 2016 **Are approach-avoidance relevant cues of the Emotional User eXperience? Case studies with innovative products.**, *Dupré, D., Pizelle, P., Dubois, M. & Tcherkassof, A.*, Berlin, Germany.
- Consortium of European Research on Emotion

October 22-23, 2014 **Introduction à l'expérience utilisateur émotionnelle : Quels sont les impacts des émotions suscitées des produits innovants sur les perceptions et les réactions des utilisateurs ?**, *Dupré, D., Tcherkassof, A. & Dubois, M.*, Grenoble, France.
- Colloque TechnUse: De l'acceptabilité à l'usage des technologies innovantes

October 11-13, 2014 **Oudjat: A configurable and usable annotation tool for the study of facial expression.**, *Dupré, D., Meillon, B. & Tcherkassof, A.*, Porto, Portugal.
- World Congress on Facial Expression of Emotion

October 11-13, 2014 **Spontaneous and dynamic emotional facial expressions reflect action readiness.**, *Tcherkassof, A. & Dupré, D.*, Porto, Portugal.
- World Congress on Facial Expression of Emotion

December 5-6, 2013 **Mesurer de l'expérience utilisateur émotionnelle de produits innovants: Quels paradigmes et outils?**, *Dupré, D., Pizelle, P., Dubois, M. & Tcherkassof, A*, Grenoble, France.
- Les Doctorales de l'Innovation

April 22-24, 2010 **Online recognition of dynamic and spontaneous facial expression.**, *Dupré, D. & Tcherkassof, A*, Villeneuve d'Ascq, France.
- Consortium of European Research on Emotion

⌨ Posters

March 23-25,2017 **Empathy and social status: The interplay between perceptions of empathy expression and social status.**, *Spencer, C., McKeown, G. & Dupré, D.*, Vienna, Austria.
- International Convention of Psychological Science

July 6-8, 2016	**Does "reading the mind in eyes" mean "reading the emotion in face"? A study of mind-reading ability measures.**, *Dupré, D., McKeown, G. & Tcherkassof, A.*, Leiden, The Netherlands.
	○ Consortium of European Research on Emotion
May 16-20, 2016	**Mind-reading ability and emotion recognition in humans.**, *Dupré, D., McKeown, G. & Tcherkassof, A.*, Erice, Italy.
	○ Workshop Animal and Human Emotions
July 8-10, 2015	**Recognition of action readiness in natural facial expression.**, *Dupré, D., & Tcherkassof, A.*, Geneva, Switzerland.
	○ Congress of the International Society for Research on Emotion
July 6-7, 2015	**Manual annotation of facial expressions for experiments.**, *Dupré, D., & Tcherkassof, A.*, Geneva, Switzerland.
	○ European Conference on Facial Expression, Measure, and Meaning
September 11-13, 2013	**Induction et annotation d'expressions faciales spontanées et dynamiques : La base de données DynEmo.**, *Dupré, D., Tcherkassof, A., Meillon, B., Mandran, N., Adam, J.-M., Dubois, M., Guérin-Dugué, A., Benoit, A.-M. & Caplier, A.*, Lyon, France.
	○ Congrès de la Société Française de Psychologie
May 2-5, 2012	**"D'you know what I mean?" Free recognition of dynamic and spontaneous facial expressions.**, *Dupré, D., & Tcherkassof, A.*, Canterbury, United Kingdom.
	○ Consortium of European Research on Emotion
August 6-8, 2009	**DynEmo: A database of dynamic and spontaneous emotional facial expressions.**, *Tcherkassof, A., Dupré, D., Dubois, M., Meillon, B., Mandran, N. & Adam, J.-M.*, Leuven, Belgium.
	○ Congress of the International Society for Research on Emotion

🏆 Grants

2020	**Innovation Voucher**, *€5,000.*
	○ Entreprise Ireland
2016	**Knowledge Transfer Partnership Post-Doctoral Fellowship**, *£50,000.*
	○ Innovate UK
2014	**Software Development**, *€3,000.*
	○ Pole Grenoble Cognition
2013	**Software Development**, *€3,000.*
	○ Pole Grenoble Cognition
2012	**DynEmo Database Valorisation**, *€4,000.*
	○ Université Grenoble-Alpes
2011	**Doctoral Fellowship**, *€80,000.*
	○ Association Nationale Recherche Technologie

📂 Projects

WebApp Development
- VAD Dashboard and API: Realtime processing and visualization of IoT devices (undisclosed)
- Motoklik Dashboard and API: ML prediction of optimal motorbike suspensions (undisclosed)
- DCU R Tutorials: Interactive learning environment for students 🔗

Software Development
- Oudjat: Continuous batch annotation of videos 🔗
- Pensum: Support for e-learning activities 🔗

Database Development
- DynEmo: Spontaneous and dynamic facial expressions 🔗
- Machine Challenge: Comparison of commercially available classifier 🔗

👥 Teaching Experience

with	what
Ph.D. Students	Advanced Quantitative Research Methods (IE)
	Introduction to R for Data Science (UK, IE)
Postgraduates	Data Analytics and Visualisation (IE)
	Data Analytics for Accounting and Business (IE)
	Data Science for Organisational Psychology (FR)
	Social Cognition and Emotions (FR)
	Strategic Consultancy Project and Data Analytics (IE)
Undergraduates	Introduction to Organisational Psychology (FR)
	Introduction to Psychology (FR)
	Social Psychology (FR)

🏛 Academic Responsibilities

- Program Chair of the Global Business Degree - Dublin City University (2020 - Now)
- Country Coordinator for the Global Business Degree - Dublin City University (2019 - 2020)
- Member of the Academic Council – Université Grenoble-Alpes (2012 – 2014)
- Delegate of Ph.D. students - Laboratoire Interuniversitaire de Psychologie (2013 – 2015)