

Damien ALLONSIUS

Data Scientist Ph.D - Vulog

26 Avenue de Flirey

Les Jasmins

06000 Nice (France)

+ 33 7 81 18 87 92

✉ damien.allonsius@dallo.fr

📁 damienallonsius.github.io

Born on the 1990/01/18, 32 years old

Job experience

- 11-2021 – now **Data Scientist**, *Vulog*, Prediction of car-sharing demand. Prediction of idle time for cars. EDA, classification, regression, <https://www.vulog.com>.
- 11-2019 – **Data Scientist**, *Qwant*, Ranking Algorithms, Learning To Rank, Information Retrieval, <https://www.qwant.com>.
- 11-2021
- 2019 – now **Data Scientist / Data Engineer**, *freelance*, scraping, EDA, API REST, Real Estate, AWS, <https://www.theagencygroup.fr>.
- 10-2018 – **Postdoctoral fellow**, *Universitat Pompeu Fabra (Barcelona)*, Reinforcement Learning, DELTA project, <https://www.upf.edu/web/delta>.
- 09-2019
- 09-2015 – **Ph.D in Applied Mathematics**, *Aix-Marseille University*, Directors: Franck Boyer and Morgan Morancey, Minimal time of null-control of parabolic partial differential equations: theoretical and numerical study, https://damienallonsius.github.io/assets/docs/These_version_finale.pdf.
- 09-2018
- 2015 – 2018 **Teacher in Probability, Statistics, Optimization and Numerical Analysis**, *Ecole Centrale Marseille (engineering school)*.
- 2016 **Web developer Javascript (project for a PhD student)**, *freelance*, <http://diagnostic-tool.pagesperso-orange.fr/>.
- 2015.April - **Research internsip**, *Université Aix-Marseille*, Franck Boyer.
- 2015.Sept Controllability properties of some parabolic systems
- 2013 **Research project at Institut Camille Jordan**, *Lyon, France*, stochastic calculus, stochastic control for optimal investment.
- 2012 **Atos Wordline, Engineering internsip**, *Lyon, France*, Web developer. Web application in Tapestry <https://www.orias.fr/>
- 2011 **Mentoring in Ecole Centrale de Lyon**, Mathematics. Lebesgue Theory, Probability, Optimization.
- 2011 **Research Project**, *Lyon, France*. Mathematics Applied to Chemistry (reaction kinetics).

Languages and tools

- Python 3 scikitLearn, pytorch, pandas, numpy, flask, scrapy, pyspark, pytest, hydra, request, lightgbm, seaborn and more!
- Data storage SQL, MongoDB, Influx, BigQuery, Elasticsearch, Vespa, Hadoop
- BI/EDA Tableau, Metabase, Apache Superset, Facets, Jupyter Notebook
- AWS S3, Lambda, EC2
- DevOps Git, GitHub, GitLab, Kubernetes, Docker, Docker Compose, Gitlab CI, Grafana, Kibana, Jenkins
- MLOps MLFlow, Argo
- Web HTML, CSS, javascript, P5
- Maths Matlab, Scilab, Maple, Partial Differential Equations, Numerical Analysis, Optimization, Linear Algebra and more !
- Other Linux, Bash, OCAML, R (basic knowledge), Java (basic knowledge), C/C++ (basic knowledge).

Education

- 2015 – 2018 **Ph.D in Applied Mathematics**, *Université Aix-Marseille*.
- 2013 – 2015 **Ecole Normale Supérieure de Cachan (normalien)**.
- (Sorbonne Université (Paris VI), Polytechnique) Master Research : Partial Differential Equations, Optimal Control and Calculus of Variations. “Agrégation de Mathématiques”.
- 2012 – 2013 **University of Cambridge**, *U.K*, Mathematical Tripos Part iii.
- (St Edmund’s College) Applied Mathematics: Probability, Statistics, Partial Differential Equations
- 2010 – 2012 **Ecole Centrale de Lyon**, Jury’s congratulations.
- 2007 – 2010 **CPGE (prep classes for “Grandes Ecoles”)**, *Nice, France*, MPSI/MP*.

Research

09-2018 **PhD**, *Study of spectral properties of Sturm Liouville operators and applications in null controllability of discretized and continuous parabolic problems*.

<http://theses.fr/2018AIXM0369/document>

2015-2018 **Journal papers**, *joint work with Franck Boyer and Morgan Morancey*.

Links available on my webpage

1. Spectral analysis of discrete elliptic operators and applications in control theory (Published : Numerische Mathematik)
2. Boundary null-controllability of semi-discrete coupled parabolic systems in some multi-dimensional geometries. (Published: Mathematical Control and Related Fields)
3. Minimal time of null-controllability of Grushin’s equation on a vertical strip in a rectangular domain by the moments method. (Published: JEE)
4. Error estimate for the finite difference discretization of a Sturm-Liouville eigenvalue problem on quasi-uniform 1D meshes.

2015-2018 **Conferences**, *With Presentations*.

Slides available on my webpage

1. CANUM 43e Congrès National d’Analyse Numérique. Obernai (France). May 2016.
2. PhD students seminar (Marseille). May 2016.
3. PICOFF Problèmes Inverses, Contrôle, Optimisation de Formes. Mini-symposium on Control of PDE. Autrans (France). June 2016.
4. Porquerolles, Seminar. May 2016
5. GTT Jussieu Groupe de Travail des Thésards. LJLL (Paris, France). June 2016.
6. Workshop APACHE. Toulouse (France). December 2016.
7. VII Partial differential equations, optimal design and numerics. Benasque, Spain. August 2017.
8. GTT Jussieu Groupe de Travail des Thésards. LJLL (Paris, France). January 2018.
9. ISMP. Bordeaux (France). June 2018.

2015-2018 **Conferences**, *Without Presentation*.

1. Workshop OCDE ‘Workshop on Optimal Control of Partial and Ordinary Differential Equations’. Ecole Polytechnique (Saclay, France). Nov 2015.
2. Porquerolles, séminaire d’équipe. May 2016

2015-2018 **Summer Schools**.

1. Mathematics In Savoie. ‘Evolution Equations : long time behavior and control’, 15-18 June 2015. Chambéry, France.
2. Spring School ContrOpt. ‘Control and Optimization’, 15-19 may 2017. Monastir, Tunisia.

2017-2018 **Other**.

Organizer of PhD students seminar (Marseille, France) : http://ed184.lif.univ-mrs.fr/doku.php?id=espace_doctorants:seminaire:start

Languages

French Native tongue
English Fluent, TOEFL iBT (in 2012) : 104/120
Italian Intermediary
Spanish Basic knowledge
Japanese Basic knowledge

Other

Sports Run (trail), cycle, bouldering, crossfit.