

# MARTIN MUGNIER

Ph.D. Candidate in Economics at CREST, ENSAE, Institut Polytechnique de Paris

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**Office Contact Information:** 5 avenue Henry Le Chatelier, 91120 Palaiseau, France.

**Personal Information:** 07/19/1995, French.

**Ph.D. Supervisor:** Xavier D'Haultfoeuille

[xavier.dhaultfoeuille@ensae.fr](mailto:xavier.dhaultfoeuille@ensae.fr)

**Primary Fields of Research:** Theoretical Econometrics, Analysis of Longitudinal (Panel) Data.

**Secondary Fields of Research:** Mathematical Statistics, High-Dimensional Statistics.

## EDUCATION

### POSTGRADUATE STUDIES

Sep. 2019 –	<b>CREST, ENSAE, Institut Polytechnique de Paris, France</b> Ph.D. Candidate in Economics <ul style="list-style-type: none"><li>• Dissertation title: “Nonlinear panel data models and high-dimensional statistics”</li></ul>
2018 – 2019	<b>Université Paris-Saclay, France</b> M.Sc. in Applied Mathematics ( <i>with honors</i> ) <ul style="list-style-type: none"><li>• Major in Mathematical Statistics and Machine Learning Theory</li></ul>
2017 – 2019	<b>ENSAE, Institut Polytechnique de Paris, France</b> Ingénieur ENSAE Économiste-Statisticien, Graduate Program <ul style="list-style-type: none"><li>• Major in Data Science and Statistical Learning Theory</li></ul>
2016 – 2017	<b>École Polytechnique, HEC Paris, ENSAE IP Paris, ENS Paris-Saclay, France</b> Master in Economics (1st year) ( <i>with highest honors</i> )
2015 – 2019	<b>École Normale Supérieure Paris-Saclay, France</b> M.Sc. in Economics and Management <ul style="list-style-type: none"><li>• Civil servant student (“normalien”)</li></ul>

### GRADUATE STUDIES

2015 – 2016	<b>Université Paris 1 Panthéon-Sorbonne &amp; ENS Paris-Saclay, France</b> B.Sc. in Economics ( <i>with honors</i> )
2013 – 2015	<b>Toulouse School of Economics &amp; Lycée Ozenne, France</b> Licences 1 & 2 in Economics and Management ( <i>ranked resp. 7/722 and 1/274</i> ) <ul style="list-style-type: none"><li>• Preparatory classes for the national competitive examination for admission to the ENS Paris-Saclay (option D2): two-year undergraduate intensive course in mathematics, economics, and management</li></ul>

## WORKING PAPERS

2019	“Fixed Effects Binary Choice Models with Three or More Periods” ( <i>with Xavier D'Haultfoeuille and Laurent Davezies</i> )
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## WORK IN PROGRESS

2020	Unobserved Clusters of Heterogeneity in Nonlinear Panel Data Models
2020	Identification and (Fast) Estimation of Nonlinear Panel Models with Additively Separable Two-Way Fixed Effects ( <i>with Ao Wang</i> )
2020	The Asymptotics of Changes-in-Changes Estimators ( <i>with Xavier D'Haultfœuille and Jérémy L'Hour</i> )
2019	Linking Patents to Firms: Insights with French Firms ( <i>with Matthieu Lequien, Loriane Py and Paul Trichelair</i> )

## GRANTS & AWARDS

2021 – 2022	EUR Data Science for Economics, Finance and Management International Mobility Grant
2019 – 2022	French Ministry of Higher Education, Research and Innovation, Full Doctoral Scholarship
2015 – 2019	École Normale Supérieure Paris-Saclay, Full Scholarship
2017	Hackaton Ernst & Young-Genius ENSAE, 2nd Prize of the Deep Learning Challenge

## TEACHING EXPERIENCE

### Undergraduate Courses

Fall '19	Linear Algebra and Python (24 hrs), HEC & ENSAE IP Paris
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### Undergraduate TA sessions at ENSAE IP Paris

Fall '20, '21'	Mathematical Foundations of Probability Theory (21 hrs), prof. Cristina Butucea
Spring '21	Differentiable Optimization (21 hrs), prof. Guillaume Lecué

### Graduate TA sessions at ENSAE IP Paris

Spring '20, '21	Econometrics II (18 hrs), prof. Mickael Visser
Fall '20, '21'	Statistics I (18 hrs), prof. Arnak Dalalyan
Spring '20, '21	Statistics II (11 hrs), prof. Matthieu Lerasle

## PROFESSIONAL EXPERIENCE

April – Sept 2019	<b>CREST – Microeconometrics Lab</b> , Palaiseau, France (4 months) Research assistant, supervised by Prof. Xavier D'Haultfœuille • Theoretical econometrics • Conducted research on identification issues and high-dimensional statistics in nonlinear models with panel data
June – Sept 2018	<b>Banque de France – DGSEI/SEPS</b> , Paris, France (4 months) Research intern, supervised by Matthieu Lequien and Loriane Py • Designed a machine-learning based algorithm to fuzzy-match patent data from the PAT-STAT Global dataset with SIRENE, the register of French firms held by Insee
2017 – 2018	<b>Société Générale – Inspection Générale</b> , Paris, France (8 months) ENSAE Team Project in Applied Statistics (part-time internship), supervised by Clément Sentis and Walid Amrane • Designed predictive algorithms to forecast and anticipate credit risk and defaults in a portfolio of medium-sized firms for a subsidiary in Africa
April – July	<b>Toulouse School of Economics – IAST</b> , Toulouse, France (4 months)

2017	Research assistant to Senior Scholar Daniel-Li Chen (IAST/NBER) <ul style="list-style-type: none"> <li>• Collected, cleaned and explored very large datasets</li> <li>• Designed and implemented econometric specifications to capture psychocognitive bias in decision-making in U.S. Courts such as cognitive caseload, time-effects, sequential-contrast effects, date of birth effects</li> <li>• Research assistance on the project “The Impact of Financial Payments from Pharmaceutical Industries on Prescribing Behaviors and Patient Outcomes”</li> </ul>
May – July 2016	<b>French Treasury – French Embassy in Colombia, Regional Economic Service,</b> Bogotá, Colombia ( <i>2 months</i> ) Economist intern, supervised by Laurent Charpin <ul style="list-style-type: none"> <li>• Performed a statistical analysis aiming to highlight promising sectors for French exports</li> <li>• Produced a report from personal research and many interviews conducted in Spanish</li> </ul>
2016 – 2017	<b>C’efficace</b> , Paris, France ( <i>2 years</i> ) Private teacher <ul style="list-style-type: none"> <li>• Taught courses in Economics, Marketing and Mathematics to five high-school and undergraduate students</li> </ul>

## PROGRAMMING SKILLS & LANGUAGES

Prog. skills	Python <sup>***</sup> , R <sup>**</sup> , Stata <sup>**</sup> , SAS <sup>**</sup> , L <sup>A</sup> T <sub>E</sub> X <sup>***</sup> , Microsoft Office <sup>**</sup> , HTML/CSS <sup>*</sup>
Languages	English (fluent, TOEIC : 915/990), Spanish (intermediate), French (native)

## CONFERENCES & SEMINARS

Seminars	CREST Microeconometrics Seminar (09/2021), Hadamard Doctoral School Ph.D. Seminar (02/2021, Orsay), CREST Ph.D. Seminar (12/2020, 07/2020), EPFL Workshop on Computational Methods in Social Science (07/2019)
Conferences	Bristol Econometric Study Group (09/2021), EEA Congress (08/2021), China Meeting of the Econometric Society (07/2021), Asian Meeting of the Econometric Society (06/2021), African Meeting of the Econometric Society (06/2021), IAAE Annual Conference (06/2021, 2020 reported), 50èmes Journées de la Statistique (2020 reported)
Co-organizer of	CREST Ph.D. Seminar (2019-2021), CREST Statistics·Econometrics·Machine-Learning Seminar (2019-), CREST Econometric Reading Group (2020)

## OTHER DUTIES

2020 – 2021	Ph.D.s’ representative on the Board of Directors of Groupe des Écoles Nationales d’Économie et Statistique (Genes)
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## REFERENCES

Xavier D’Haultfœuille  
Professor of Economics  
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