Selin YARDIMCI

Born on 21 February 1998, Istanbul
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Current Position

2025–present	Temporary Lecturer and Research Assistant (ATER), University of Rennes
2022–2025	PhD contract with teaching duties, University of Rennes

Education

2022–present	PhD candidate in Economics, *"Insidious Strategies in Digital Markets"*, supervised by Eric Malin, co-supervised by Thomas Le Texier Centre de Recherche en Économie et Management (CNRS, CREM – UMR 6211)
2020–2022	Master's Degree in Innovation Management, Specialisation in Digital Strategies and Innovation (SDIN), with Distinction, University of Rennes
2017–2020	Bachelor's Degree in Economics and Management, Specialisation in Business Economics and Management, with Merit, University of Rennes

Research Interests

Keywords: Digital addiction, Algorithmic decision making, Artificial intelligence in markets, Dark patterns, Digital platforms, Data marketing, Consumer perception, Consumer behaviour, Microeconometrics, Industrial organization

My research focuses on insidious strategies and practices in digital markets. I study ransomware and develop a theoretical model explaining how such threats incentivize firms to adopt defensive strategies, while raising broader questions about risk management in the digital economy. I also analyze pricing algorithms through simulations of algorithmic collusion, which reshape competitive dynamics and may lead to tacit collusion or exploitative pricing strategies. In addition, I investigate deceptive practices, known as dark patterns, and their impact on users, particularly on social media platforms, where deceptive design can contribute to digital addiction. To examine these phenomena, I draw on data from a survey conducted in 2023. By analyzing these interconnected issues, my objective is to contribute to understanding the mechanisms that shape both firms' strategic behavior and consumer vulnerability in digital environments.

Publications

Intrinsic Motivation and Altruism under Rational Inattention: Do We Perform Better When We Care?, with A. Brandenburg and Z. Wang.
Accepted for publication in the Journal of Behavioral Economics for Policy (JBEP). This work is not part of the PhD thesis.

Keywords: Rational inattention; Intrinsic motivation; Perceptual tasks

Within a rational inattention framework, we study the relationship between intrinsic motivation, altruism, information costs, and decision performance using perceptual tasks. We document counterintuitive results: stronger intrinsic motivation reduces performance, and higher altruism also lowers performance when information acquisition benefits others. These effects are explained by a positive relationship between altruism, intrinsic motivation, and information costs.

Work in Progress

Recommendation Systems, Pricing Algorithms and Price Discrimination, with A. Brandenburg.

Keywords: Algorithm; Recommendation system; Digital Platform; Collusion

Pricing algorithms and recommendation systems play an important role in online markets. We model two firms, each relying on algorithmic pricing, competing on a platform endowed with a recommendation system. Consumers are of two types, Loyal and Switcher, with recommendations affecting only the latter's purchasing behaviour. We show that there exists a minimum recommendation quality threshold above which price discrimination becomes optimal in the duopoly case. As recommendation quality decreases, consumers become more captive to their initially preferred firm and less sensitive to price changes. Price discrimination then becomes less effective as a source of competitive advantage and yields lower profits than uniform pricing. In line with the existing literature, price discrimination is always profitable in the monopoly case. We conduct simulations using reinforcement learning algorithms, namely Q learning and Sarsa, to study the scope for collusion among pricing algorithms. The results show that the degree of collusion decreases as the quality of the recommendation system increases, due to stronger competitive pressure induced by more effective recommendations.

Understanding Digital and Non Digital Addictions: Determinants and Interrelations.
Under review in ***Annals of Economics and Statistics*** .

Keywords: Multivariate Probit Model; Normal Distribution; Econometric Simulation; Microeconometrics; Addiction; Consumer Behavior

This study examines the structural determinants and interdependencies of digital and non-digital addictions using nationally representative French survey data. Exploiting a maximum simulated likelihood estimation of a multivariate probit model with multiple sample selections, we correct for selection into addiction by conditioning on initial engagement. To assess behavioral spillovers across domains, we estimate a recursive multivariate probit model. Results reveal significant selection bias in digital and substance-based addictions, with risk tolerance and fear of missing out predicting digital overuse. Recursive estimates suggest that smoking increases the probability of both social media and video gaming addictions, while video gaming substitutes for alcohol addiction. Smartphone and social media addictions exhibit strong mutual reinforcement. These patterns indicate that interventions targeting one addiction may affect the incidence of others, depending on the direction of their structural linkage.

Digital Addiction and User Reactions to Dark Patterns: A Focus on Social Media, with J. Drouard, T. Le Texier, M. Lumeau, R. Suire.

Keywords: Problematic Internet use; Dark patterns; Microeconometrics; Digital platforms; Consumer perception

We analyse how persuasive technologies implemented by social media platforms contribute to digital addiction, with a specific focus on dark patterns. These interface designs exploit users' cognitive biases and decision heuristics. We propose a typology of frequently encountered dark patterns and, using survey data collected among Internet users in France, examine the relationship between digital addiction, social media usage, and exposure to these deceptive practices.

Swimming with Sharks: Strategic Disclosure and System Protection Against Ransomware Attacks, with T. Le Texier, E. Malin.

Keywords: Cyber insurance; Risk; Ransomware; System protection

We study the impact of cyber insurance on firms' decisions to disclose ransomware attacks. Insurance coverage incentivises firms to disclose attacks and invest in system protection, in contrast with a situation without insurance where firms minimise costs by concealing the attack and paying the ransom.

Selected Conference, Seminar and Workshop Presentations

2025

- CEPR Paris Symposium, *8–9 December 2025, Paris.*
- CREM – CREST – SMART Day, *5 September 2025, Rennes.*
- AFREN Summer School on Digital Economics, *30 June – 1 July 2025, Paris.*
- Applied Microeconomics Days (JMA), *5–6 June 2025, Poitiers.*
- Annual AFSE Congress, *2–4 June 2025, Paris.*
- HEC Liège Young Researchers Conference in Economics, *18 April 2025, Liège.*

2024

- CEPR Paris Symposium, Industrial Organization Sessions, *18 December 2024, Paris.*
- AFREN Doctoral Workshop, *8 November 2024, Paris.*
- AFREN Summer School on Digital Economics, *27–28 June 2024, Rennes.*
- EDGE Workshop, *23 May 2024, Angers.*

2023

- AFREN Summer School on Digital Economics, *3–4 July 2023, Avignon.*
- Summer School *Democratizing Technology and Technology for Democracy*, ELTE Faculty of Informatics, *25–30 June 2023, Budapest.*
- Annual Marsouin Seminar (*Digital challenges and its ability to address current crises*), *25–26 May 2023, Lanester.*
- Workshop *Consenting on the Web – Co-producing "consent" in the context of programmatic advertising*, *4–5 April 2023, Rennes.*

Collective Activities

- Co-organiser of monthly PhD seminars during the 2024-2025 and 2025-2026 academic years.
- Co-organiser of the AFREN Workshop and Summer School on Digital Economics, June 2024, Rennes.

Collaborative Research and Research Engineering

Collaborative Research Project
Participation in the project *Understanding the Role of Dark Patterns in Problematic Internet Use*, coordinated by Joeffrey Drouard (Associate Professor, Université Côte d'Azur, GIS M@rsouin), 2022–present. This work involves collaboration within an interdisciplinary research team bringing together economists, management scholars, and psychologists. I contribute to the conceptualisation and empirical analysis of dark patterns on social media platforms, with a focus on their behavioural effects, user perceptions, and problematic Internet use, as well as to **survey design**, **variable construction**, and **empirical analysis**.

Research Engineering and Computational Support

- Design, implementation, and optimisation of large scale simulations on CNRS Huma-Num computational servers for research projects involving algorithmic pricing.
- Development of custom econometric routines in Stata for the estimation of multivariate probit models with multiple sample selections using simulated maximum likelihood.
- Implementation of simulation based methods in Python language to study dynamic strategic interaction (reinforcement learning algorithms used are Q-learning and Sarsa).
- Management of reproducible research workflows, including data cleaning, documentation, and replication of empirical results.

Collective Responsibilities

2022–present PhD students' representative on the EDGE Doctoral School Council.

Teaching Experience

2025–2026
Microeconomics Tutorials, Semester 6 (Bachelor in Economics and Management, University of Rennes)
Microeconomics Tutorials, Semester 3 (Bachelor in Economics and Management, University of Rennes)
Python Programming Course (Master 1 in Digital Strategies and Innovation, University of Rennes)

2024–2025
Microeconomics Tutorials, Semester 3 (Bachelor in Economics and Management, University of Rennes)
Python Programming Course (Master 1 in Digital Strategies and Innovation, University of Rennes)

2023–2024
Economics Tutorials (taught in English), 2nd year Engineering Programme, CentraleSupélec, Rennes Campus
Excel and Digital Tools Tutorials (Bachelor in Economics and Management, University of Rennes)
Python Programming Course (Master 1 in Digital Strategies and Innovation, University of Rennes)

2022–2023
Microeconomics Tutorials, Semesters 1 and 2 (Bachelor in Economics and Management, University of Rennes)

Industry Experience

2022
Product Analyst, Henkan & Partners, Issy-les-Moulineaux (6 months).
Responsibilities included the creation and audit of tagging plans, experimentation design and analysis, the implementation of web and UX analytics tools, the design of data dashboards, data extraction, and conversion rate optimisation.

2020–2021
Business Developer, Labrys Consulting, Istanbul & Toronto (remote).
Activities included content creation for newsletters and blogs on marketing technologies and customer experience, as well as business prospecting.

Skills

Languages French (Advanced); English (Advanced); Turkish (Native).

Programming and Computing Python; Stata; Mathematica; LaTeX; R; JavaScript; HTML & CSS; Bash scripting for server communication; Survey design with LimeSurvey; JupyterLab; Microsoft Office Suite; Notion; Canva; Miro; Figma.

Data Analysis and Algorithms Data manipulation and visualisation in Python; Microeconometric analysis; Simulation based methods; Reinforcement learning algorithms (Q learning, Sarsa); Algorithmic pricing simulations; Experience with large language models (LLMs) for text analysis and exploratory data analysis, including local deployment and experimentation with open source models such as Mistral and GLM.

Web and Product Analytics	Google Analytics 4 (GA4); Looker Studio; Optimizely; Amplitude; Mixpanel; ContentSquare; Google Tag Manager; Tealium IQ Tag Manager; OneTrust Consent Management Platform.
Marketing and CRM Tools	HubSpot; Mailchimp; ActiveCampaign; Oracle Sales Cloud.