

SHANTANU CHADHA

Department of Economics, University of Warwick, Coventry, UK, CV4 7AL — shantanu.chadha@warwick.ac.uk

RESEARCH INTERESTS

Micro-Economic Theory, Game Theory, Social and Production Networks, Political Economy

EDUCATION

University of Warwick, UK

MRes/PhD, Economics

Sept 2023 - Present

MSc, Economics (*Distinction, Ranked 6th out of 170*)

Sept 2021 - Sept 2022

St. Xavier's College, Kolkata

BSc, Economics (*First-Class Honours*)

June 2014 - Apr 2017

RESEARCH EXPERIENCE

Center For Economic Performance, LSE, UK

May 2023 - Present

Research Assistant with *Prof. Ralf Martin and Anna Valero*

- Using large language models (ChatGPT) to create a new measure of green innovation undertaken by firms in the UK and its link to productivity and output.

University of Warwick (WISE Internship), UK

Aug 2022 - Sept 2023

Research Assistant Intern with *Dr. Christian Soegaard*

- Working on a theoretical paper on generic Rock-Paper-Scissor type games with intransitive actions and their inherent Nash equilibrium properties.

TEACHING EXPERIENCE

University of Warwick, UK

Sept 2022 - Present

Senior Graduate Teaching Assistant \ Associate Tutor

EC961: Introductory Mathematics and Statistics (MSc)

EC204: Economics 2

EC901: Microeconomics A (MSc)

EC229: Economics of Strategy

EC9A1: Advanced Microeconomics (MRes)4

EC231: Industrial Economics 1

EC326: Industrial Economics 2

EC202: Microeconomics 2

EC331: Research in Applied Economics

INDUSTRY EXPERIENCE

McKinsey & Company, India

June 2017 - June 2021

Senior Data Scientist

- Served global clients as an Expert Associate (translator and data scientist), increasing revenue and reducing costs through econometric modeling, machine learning, and data-driven optimization.
- Led data science academies and training sessions for junior colleagues and client data scientists, upskilling them for projects. Assisted in hiring data scientists by conducting technical interviews.
- Worked on building state of the art time series forecasting and regression tools using open source material and new algorithms as part of the innovation hub.
- **Achievement:** Multiple fast track promotions with distinctive rating (top 5-10% of employees).

AWARDS AND SCHOLARSHIPS

Warwick Departmental Scholarship
Graduate Teaching Assistant Excellence Award

Sept 2023- Present
2022-2023

SKILLS

- **Machine Learning:** Regression, Classification, Prescriptive analytics, Time Series Modelling, Tree-based models, Bagging, Boosting, Neural Networks (limited knowledge), Evolutionary and Meta-heuristic Optimization.
- **Statistical Tools:** ANOVA, Hypothesis Testing, ARIMA, ARIMAX, Linear regression, Regularization, Principal Component Analysis, Information theory, Networks.
- **Software/Algorithm Development:**
 - Created a decision (C4.5) tree algorithm from scratch in Python with regularization.
 - Built a multi-variate forecasting engine with a new heuristic to tune ARIMA parameters.
 - Built an evolutionary meta-heuristic optimization engine (Simulated Annealing, Differential Evolution, Particle Swarm etc.) to optimize non-analytical and analytical objective functions with non-linear constraints.
- **Softwares and Platforms:** R, Python, Tableau, Alteryx, Excel, STATA, Latex, SQL (limited knowledge), GitHub, Visual Studio, Azure DevOps.
- **Certifications:** Cleared 4 actuaries examinations from Institute and Faculty of Actuaries, UK - CT1, CT2, CT3, CT7
- **Courses/Summer Schools:**
 - **University of Oxford** Institution for New Economic Thinking/Mathematical Institute: Economic Networks (*June 2024*)
 - **Princeton University** Princeton Initiative: Macro, Money and Finance (Prof. Markus Brunnermeier) (*June 2023*)

RESEARCH PROJECTS

- Dissertation (MSc) with Professor Bhaskar Dutta: Competitive Contagion Under Local Coordination in Networks: Modelling the Optimal Seeding Decision of Competing Firms (2022)
- MSc Econometrics Group Project: Three Point Rule and Entertainment in the Spanish League: A multi-period DiD investigation (2022)
- Dissertation (BSc): Private investment in Research and Development: A Two Period Probabilistic Approach (2017)
- Econometric Analysis of the Role of Health and Education on Human Capital Development (Presented the paper at Confluence 2016)

OTHER ACHIEVEMENTS

- Confluence (Economics Summit) - Participated and won at the annual economic summit of the Xavier's Economics Society (2014)
- Part of the editorial team of Eco Echoes, the Economic Journal of St. Xavier's Kolkata (2015)