

# Maximilian Fichtl

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Chair of Decision Sciences & Systems (I18)  
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**RESEARCH INTERESTS** Algorithmic game theory, auction theory, convex optimization, online learning, discrete convex analysis, equilibrium computation

**ACADEMIC BACKGROUND** *Ph.D. Computer Science* August 2018 - Present  
Technical University of Munich, Munich, Germany

*M.Sc. Mathematics* 2014-2017  
Technical University of Munich, Munich, Germany

*B.Sc. Mathematics (elite partial course Topmath)* 2011-2014  
Technical University of Munich, Munich, Germany

**JOURNAL ARTICLES** Computing Bayes Nash equilibrium strategies in auction games via gradient dynamics.  
M. Fichtl, M. Oberlechner, and M. Bichler.  
*Major revision, Operations Research*

Strong substitutes: Structural properties, and a new algorithm for competitive equilibrium prices.  
E. Baldwin, M. Bichler, M. Fichtl, and P. Klemperer.  
*Mathematical Programming*, 2022.

On the expressiveness of assignment messages.  
M. Fichtl.  
*Economics Letters*, 2021.

Learning equilibria in symmetric auction games using artificial neural networks.  
M. Bichler, M. Fichtl, S. Heidekrüger, N. Kohring, and P. Sutterer.  
*Nature Machine Intelligence*, (3), 2021.

Walrasian equilibria from an optimization perspective: A guide to the literature.  
M. Bichler, M. Fichtl, and G. Schwarz.  
*Naval Research Logistics*, 2020.

**CONFERENCE PROCEEDINGS** Core-stability in assignment markets with financially constrained buyers.  
E. Batziou, M. Bichler, and M. Fichtl.  
*EC '22*, 2022.

**WORKSHOP PAPERS** Computing distributional Bayes Nash equilibria in auction games via gradient dynamics.  
M. Fichtl, M. Oberlechner, and M. Bichler.  
*AAAI-22 Workshop on Reinforcement Learning in Games*, 2022.

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| <b>TEACHING</b>    | <i>Operations Research (IN0024)</i><br>Teaching assistant                                      | Summer terms<br>2019-2022               |
|                    | <i>Auction Theory and Market Design (IN2211)</i><br>Teaching assistant                         | Winter terms<br>2018/2019 and 2019/2020 |
| <b>INTERNSHIPS</b> | <i>Research internship at Meta Core Data Science</i><br>Research area: Economics & Computation | September 2021 - January 2022           |
| <b>AWARDS</b>      | Study Award 2014 for excellent study performance   |   |
| <b>LANGUAGES</b>   | German (native), English (fluent)  |   |