Institute of Psychology, TU Darmstadt
Alexanderstraße 10, 64289 Darmstadt
+49 6151 16 24077
dominik.straub@tu-darmstadt.de
https://dominikstrb.github.io/
dominikstrb
dominikstrb

Dominik Straub

Curriculum Vitae

Research experience

Since 2019 **Ph.D. student**, *Prof. Constantin Rothkopf*, TU Darmstadt, Psychology of Information Processing

Summer 2017 **Internship**, *Prof. Jakob Macke*, TU Munich
Gaussian Process methods for analyzing neuroimaging data

2015 - 2019 **Undergraduate research assistant**, *Prof. Constantin Rothkopf*, TU Darmstadt, Psychology of Information Processing
Experimental design, virtual reality, eye tracking, data analysis

Education

2017 - 2019 **M.Sc. Psychology in IT**, *TU Darmstadt*
Thesis: "Simulating the natural input to the visual system", GPA 1.07

2013 - 2017 **B.Sc. Psychology in IT**, *TU Darmstadt*
Thesis: "Can humans learn to deviate from the constant bearing angle strategy?", GPA 1.18

2013 **Abitur**, *Sebastian-Münster-Gymnasium, Ingelheim*, GPA 1.3

Publications

2022 **Straub, D., & Rothkopf, C. A.**, *Putting perception into action with inverse optimal control for continuous psychophysics*, eLife.

2021 **Schultheis, M.*, Straub, D.*, & Rothkopf, C. A.**, *Inverse Optimal Control Adapted to the Noise Characteristics of the Human Sensorimotor System*, Advances in Neural Information Processing Systems, 34.

2021 **Zhao, H., Straub, D., & Rothkopf, C. A.**, *How do People Steer a Car to Intercept a Moving Target: Interceptions in Different Environments Point to One Strategy*, Quarterly Journal of Experimental Psychology. 2021;74(10):1686-1696.

2021 **Straub, D., & Rothkopf, C. A.**, *Looking for image statistics: active vision with avatars in a naturalistic virtual environment*, Frontiers in Psychology 12, 431.

2019 **Zhao, H., Straub, D., & Rothkopf, C. A.**, *The visual control of interceptive steering: How do people steer a car to intercept a moving target?.*, Journal of Vision, 19(14), 11-11.

Teaching

Winter 2022 **Statistical Modeling for Psychology**, *Institute of Psychology*, TU Darmstadt

Summer 2022 **Statistical Modeling for Cognitive Science**, *Institute of Psychology*, TU Darmstadt

Summer 2022 **Computer-based Data Processing**, *Institute of Psychology*, TU Darmstadt

Winter 2021 **Statistical Modeling for Psychology**, *Institute of Psychology*, TU Darmstadt

Summer 2021 **Statistical Modeling for Cognitive Science**, *Institute of Psychology*, TU Darmstadt
Summer 2021 **Experimental Psychology Practice**, *Institute of Psychology*, TU Darmstadt
Winter 2020 **Cognitive Science Master Project**, *Institute of Psychology*, TU Darmstadt
Summer 2020 **Statistical Modeling for Cognitive Science**, *Institute of Psychology*, TU Darmstadt
Summer 2020 **Experimental Psychology Practice**, *Institute of Psychology*, TU Darmstadt
Winter 2015 **Software Engineering**, *Department of Computer Science*, TU Darmstadt

Mentorship

2022 **Fabian Tatai**, *Shooting pucks at targets for money: Economic and sensorimotor decision making during physical object interactions*, MSc thesis
2022 **Anna-Maria Kugler**, *An investigation of optimality in sensorimotor actions*, BSc thesis
2022 **Lukas Maninger**, *Predicting human similarity judgments with normalizing flows*, BSc thesis
2020 **Erkam Ilhan**, *Research assistant*

Conference presentations & abstracts

2022 **Straub, D. & Rothkopf, C.A.**, *Putting perception into action: Inverse optimal control for continuous psychophysics*, Conference on Cognitive Computational Neuroscience (CCN)
2022 **Straub, D., & Rothkopf, C.A.**, *An analysis method for continuous psychophysics based on Bayesian inverse optimal control.*, Vision Sciences Society Annual Meeting Abstract
2022 **Straub, D.**, *Inverse optimal control for learning subjective costs and beliefs from behavior in a sequential sensorimotor task*, Doctoral Symposium of the German Society for Cognitive Science "Perspectives on Learning"
2022 **Straub, D., Schultheis, M., & Rothkopf, C.A.**, *Inferring implicit sensorimotor costs by inverse optimal control with signal dependent noise*, Computational and Systems Neuroscience (COSYNE)
2020 **Straub, D., & Rothkopf, C. A.**, *Quantifying orientation biases across the visual field in humans and cats*, Vision Sciences Society Annual Meeting Abstract
2019 **Zhao, H., & Straub, D.**, *How do people drive a car to cross a road intersection between incoming vehicles?*, Vision Sciences Society Annual Meeting Abstract
2018 **Zhao, H., Straub, D., & Rothkopf, C. A.**, *Steering a car to intercept a moving target: Can people learn a better interception solution?*, Vision Sciences Society Annual Meeting Abstract
2017 **Zhao, H., Straub, D., & Rothkopf, C. A.**, *How do people steer a car to intercept a moving target: the visual control of locomotor interception*, Vision Sciences Society Annual Meeting Abstract
2016 **Zhao, H., Straub, D., & Rothkopf, C. A.**, *How do people steer a car to intercept a moving target: Flexibility in the visual control of locomotor interception*, European Conference on Visual Perception

Conference and summer school participation

2022 **Conference on Cognitive Computational Neuroscience**, *San Francisco, California, USA*
2022 **Vision Sciences Society Annual Meeting**, *St. Pete Beach, Florida, USA*
2022 **Computational and Systems Neuroscience (COSYNE)**, *Lisbon, Portugal*

2021 **Neural Information Processing Systems**, *virtual conference*

2020 **Neuromatch Academy**, *online summer school (observer track)*

2020 **Vision Sciences Society Annual Meeting**, *virtual conference*

2018 **Interdisciplinary College**, *Me, my Self, and I*, Möhnesee-Günne, Germany

2017 **Interdisciplinary College**, *Creativity and Intelligence in Brains and Machines.*, Möhnesee-Günne, Germany

Accolades

2022 **John I. Yellott Travel Award for Vision Science**, *Vision Sciences Society Annual Meeting*

Other skills and activities

Peer review Journal of Vision (2021), PLOS Computational Biology (2022), Scientific Reports (2022)

Languages German (native), English (fluent), Spanish (intermediate), Chinese (beginner)