

# NADJA R. GING-JEHLI

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## SHORT PROFILE

- Investigating the interaction between executive functions and feedback-driven learning to understand their effects on mental states and behavioral adaptation in diverse contexts, using a mechanistic approach to uncover psychological and neurological principles.
- Addressing key questions on the interplay of cognitive functions with reinforcement and social learning in decision-making; the impact of mental fluctuations in ADHD, mood disorders and comorbidities; and the translation of neurocognitive insights into practical applications for enhancing productivity and well-being.
- An integrative research program emphasizing foundational inquiry, methodological advancement, and practical clinical and educational applications, seamlessly bridging computational psychiatry, mathematical psychology, neuroscience, and behavioral economics.
- Fostering interdisciplinary collaboration among clinicians, neuroscientists, engineers, psychologists, and educators leveraging multidimensional assessments and integrating neurocomputational network and behavioral models, particularly in the context of ADHD, mood disorders, and substance use.
- Proficient in combining EEG and eye-tracking with advanced modeling techniques and experiments.
- Versatile in analyzing experimental data across clinical and non-clinical settings and across species.
- Deep expertise in statistics (Bayesian & Frequentist), machine learning, and modeling across analytical levels.
- Entrepreneurially inclined with a decade of industry experience in finance and consulting.
- Self-driven first-generation academic and college student.

## ACADEMIC BACKGROUND

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- Postdoctoral Researcher, *Brown University*** 2022 – present  
Providence, RI USA  
Computational Psychiatry & Cognitive and Social-Cognitive Neuroscience (Main Mentor: Michael J. Frank)  
Building independent research program that addresses the challenge posed by the dynamic nature of cognitive skills and mental states across contexts, times, and individuals.  
Modeling expert on multiple clinical center grants focused on Depression, Bipolar and OCD
- PhD in Psychology and Neuroscience, *The Ohio State University*** 2019 – 2022  
**with Specialization: model-based cognitive neuroscience**  
Columbus, OH USA  
Dissertation: Characterizing adult attention-deficit hyperactivity disorder (ADHD) with a multidisciplinary computational approach including novel neurocognitive testing and physiological measures.  
Advisor committee: Patricia Van Zandt, L. Eugene Arnold, Brandon Turner, Jay Myung
- Master of Arts in Psychology, *The Ohio State University*** 2017 – 2019  
**with Specialization: cognitive psychology and neuroscience**  
Columbus, OH USA  
Master's thesis: On the implementation of computational psychiatry within the framework of cognitive psychology and neuroscience.  
Advisor committee: Patricia Van Zandt, Roger Ratcliff, L. Eugene Arnold
- Additional coursework in Psychology, *University of Zurich*** 2016 – 2017  
Zurich, Switzerland  
Biological Psychology I & II, Neuroeconomics, Social Psychology I & II  
(Neuroscience, Immunology, Genetics, Epigenetics, Endocrinology)
- Master of Arts in Economics, *University of Zurich*** 2015 – 2017  
**with Minor: behavioral and experimental economics**  
Zurich Switzerland  
Graduation with honors: magna cum laude  
Master's thesis: Situational determinants of social preferences.  
Advisor: Ernst Fehr
- Additional coursework in Mathematics, *Swiss Federal Institute of Technology (ETH)*** 2014 – 2015  
Zurich Switzerland  
Real Calculus I & II, Linear Algebra I & II

<b>Bachelor of Arts in Economics</b> , <i>University of Zurich</i> Zurich, Switzerland Graduation with honors: magna cum laude Bachelor's thesis: Generosity across economic contexts. Advisor: Roberto A. Weber	2012 – 2014
<b>Bachelor of Science in Business Administration</b> , <i>Zurich University of Applied Sciences (ZHAW)</i> Winterthur, Switzerland Graduation with honors: Dean's List Award in recognition of outstanding academic achievement Awarded with the Rieter-Award for the best Bachelor Thesis in 2012: "How corporate governance of a consultancy can benefit from findings in behavioral economics – How implicit incentive signals influence intrinsic motivation"	2008 – 2012
<b>Industrial Psychology with Certificate from KLZ</b> , <i>Commercial Learning School (KLZ)</i> Zurich, Switzerland	2007 – 2008
<b>Human Resources Advisor with Certificate</b> , <i>AKAD School of Business</i> Zurich, Switzerland	2006 - 2007
<b>Apprenticeship with Vocational Baccalaureate Diploma</b> , <i>Graubündner Kantonalbank</i> Chur, Switzerland	2004 – 2007

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### PROFESSIONAL EXPERIENCE

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<b>Brown University</b> , Providence, RI USA <b>Postdoctoral Researcher in Computational Psychiatry &amp; Cognitive Neuroscience</b> • My research program addresses three interconnected questions: <ul style="list-style-type: none"> <li>○ How do cognitive functions (e.g., attention, cognitive flexibility) interact with learning to shape decision-making in social contexts (e.g., cooperation, competitiveness, and aggression)?</li> <li>○ What role do fluctuations in mental processes play in social issues (e.g., emotion dysregulations) related to attention-deficit hyperactivity disorder (ADHD) and comorbidities?</li> <li>○ Can we transfer neurocognitive and social-cognitive insights into real-world applications that augment executive functioning and therefore improve both daily productivity and well-being?</li> </ul> • Developing a unified modeling approach across behavioral and neurocomputational models • Directing several independent research projects in the domain of computational psychiatry across disorders and species	09/2022 – present
<b>BGBehavior LLC</b> , Providence, RI USA <b>Co-founder</b> • Consulting in computational modeling, statistics, and cognitive psychology	02/2023 – present
<b>The Ohio State University</b> , Columbus, OH USA <b>PhD in Psychology and Neuroscience</b> • Designing, programming, and piloting multiple cognitive and social-cognitive tasks to study cognitive control, cognitive flexibility, and social-cognitive behavior • Collecting and analyzing behavioral, electroencephalographic (EEG) and eye-tracking data • Class project: collecting and analyzing functional magnetic resonance imaging data (fMRI) • Experience in administering laboratory tasks to clinical and non-clinical populations (adults and children) • Experience in computational modeling and machine learning <ul style="list-style-type: none"> <li>○ Applying machine learning algorithms and sequential sampling models to link behavioral model parameters from neurocognitive tests with EEG data and eye-tracking data (gaze and pupil measures)</li> <li>○ Analyzing experimental data (e.g., task performance on go/no-go tasks, perceptual discrimination tasks, task-switch paradigms, economic choice tasks) from non-clinical and clinical studies using diffusion decision models, race diffusion models, ballistic accumulator models, ex-Gaussian distribution models, and reinforcement learning models</li> <li>○ Programming of neural networks to understand potential different causes of autism spectrum disorders</li> </ul> • Experience in clinical research <ul style="list-style-type: none"> <li>○ Conduct own clinical study (from IRB submission to publication as PI)</li> </ul>	08/2017 – 08/2022

- Assisting in a randomized clinical trial for neurofeedback treatment for childhood attention-deficit hyperactivity disorder
- Performing biostatistical analyses (e.g., linear mixed modeling, moderator and mediator analyses) for various non-pharmacological interventions for ADHD and for a pharmacological intervention for autism spectrum disorder
- Independently conducting semi-structured clinical interviews (K-SADS) after being trained by medical doctors
- Independently collecting and evaluating responses on various clinical questionnaires after being trained by clinicians and medical doctors

**University of Zurich, (20-60% employment)**

07/2013 – 01/2017

**Research Assistant, Zurich, Switzerland**

Chair of Behavioral Economics (Prof. Roberto Weber), Department of Economics

- Directing several independent research projects
- Analyzing experimental and field data with STATA
- Programming experiments with “z-Tree”
- Assisting in designing and conducting experiments at the Economics Laboratory
- Conducting literature research, surveys, field and online studies

**Swiss Federal Institute of Technology, ETH (20-40% employment)**

11/2013 – 07/2017

**Laboratory Assistant, Zurich, Switzerland**

Decision Science Laboratory, Department D-GESS, Behavioral Studies

- Responsible for checking experiments programmed with z-Tree
- Writing codes for PowerShell to run experiments
- Independently conducting laboratory experiments
- Assistance in conducting laboratory experiments
- Helping others with programming experiments with “z-Tree”

**Statistical Bureau, City of Zurich (60% employment)**

07/2013 – 09/2013

**Internship as Research Assistant, Zurich, Switzerland**

- Data collection, preparation, and statistical analysis (SAS & Excel)

**Fehr Advice & Partners AG (50-100% employment)**

03/2012 – 02/2013

**Consultant & Chief of Staff, Zurich, Switzerland**

- Junior Consultant in several client projects
- supervision of 4 team assistants

**UBS AG (100% employment)**

07/2007 – 02/2012

**Client Advisor Assistant, Executives/Entrepreneurs Private Banking, Zurich, Switzerland** 03/2011 – 02/2012

- Worked closely with specialists from Investment Banking
- supported Client Advisors

**Individual Client Advisor, Rüslikon, Switzerland**

09/2008 – 02/2011

- Managed own client book (business volume approx. CHF 140M)
- Deputy for branch manager & trained apprentices in practice and in financial mathematics

**General Client Advisor, Zollikerberg, Switzerland**

07/2007 – 08/2008

**Graubündner Kantonalbank (100% employment)**

08/2004 – 06/2007

**Apprenticeship with Vocational Maturity Diploma, Chur, Switzerland**

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**PUBLICATIONS**

**Published Articles**

\*Mentees

1. Ging-Jehli, N.R., Arnold, L.E., Van Zandt, T. (2023). Cognitive & attentional mechanisms of cooperation – with implications for attention-deficit hyperactivity disorder and cognitive neuroscience. *Cognitive, Affective, & Behavioral Neuroscience.*

2. Ging-Jehli, N.R., Painter, Q.A.\*, Kraemer, H., Roley-Roberts, M.E., Panchyshyn, C.\*, deBeus, R., Arnold, L.E. (2023). A Diffusion Decision Model Analysis of The Cognitive Effects of Neurofeedback for ADHD. *Neuropsychology*.
3. Ging-Jehli, N.R., Kraemer, H., Arnold, L.E., Roley-Roberts, M.E., deBeus, R. (2023). Latent cognitive components moderate neurofeedback response in ADHD – A computational modeling analysis of a randomized clinical trial. *Journal of Clinical and Experimental Neuropsychology*.
4. Roley-Robert, M.E., Bergman, R., Pan, X., Tan, Y., Hendrix, K., deBeus, R., Kerson, C., Arns, M., Ging-Jehli, N.R., Connor, S., Shrader, C., Arnold, L.E. (2022). Comorbid anxiety and disruptive behavior disorders but not ADHD presentation moderate neurofeedback effect in children with ADHD. *Applied Psychophysiology and Biofeedback*.
5. Ging-Jehli, N.R., Arnold, L.E., Roley-Roberts, M.E., deBeus, R. (2022). Characterizing underlying cognitive components of ADHD presentations and co-morbid diagnoses – A diffusion decision model analysis. *Journal of Attention Disorders*.
6. Ging-Jehli, N.R., Ratcliff, R., Arnold, L.E. (2021). Improving Neurocognitive Testing using Computational Psychiatry – A Systematic Review for ADHD. *Psychological Bulletin*.
7. Ging-Jehli, N.R., Ratcliff, R. (2020). Effects of aging in a task-switch paradigm with the diffusion decision model. *Journal of Psychology and Aging*.
8. Ging-Jehli, N.R., Deepa, M., Hollway J., Hurt, E., Moone, S., Arnold, L.E. (2020). Exploring cholesterol supplementation for autistic symptoms in Children with Low Cholesterol. *Journal of Developmental and Physical Disabilities*.
9. Ging-Jehli, N.R., Schneider, F.H., Weber, R.A. (2020). On self-serving strategic beliefs. *Journal of Games and Economic Behavior*.
10. Davis, A. L., Jehli, N.R., Miller, J.H., & Weber, R.A. (2015). *Generosity across contexts*. CESifo Working Paper, No. 5272, Center for Economic Studies and ifo Institute (CESifo), Munich.

### **Articles Under Review**

11. Ging-Jehli, N.R., Arnold, L.E., Sellers J.\*, Van Zandt, T. (submitted). Broader visual processing and distinct pupil dynamics facilitate resolving perceptual conflict and compensate for ADHD distractibility.
12. Ging-Jehli, N.R., Kuhn, M., Blank, J.M., Chanthrakumar, P.\*, Steinberger, D.C., Yu, Z., Herrington, T.D., Dillon, D.G., Pizzagalli, D.A., Frank, M.J. (submitted). Cognitive signatures of depression, anhedonia, and affective states using computational modeling and neurocognitive testing.
13. Ging-Jehli, N.R., Cavanagh, J.F., Ahn, M., Segar, D.J., Asaad, W.F., Frank, M.J. (submitted). Pump the brakes: Distinct basal ganglia decision dynamics under conflict and uncertainty.
14. Strittmatter, Y., Spitzer, W.H., Ging-Jehli, N.R., Musslick, S. (submitted). A jsPsych Touchscreen Extension for Behavioral Research on Touch-Enabled Interfaces.

### **Published Conference Abstracts**

1. Ging-Jehli, N. R., & Arnold, L. E. (2023). 13.3 Cognitive Role of EEG Theta/Beta-Ratio for Behavior: Accounting for ADHD Heterogeneity. *Journal of the American Academy of Child & Adolescent Psychiatry*, 62(10), S344.
2. Ging-Jehli, N., Arnold, L. E., Sellers, J.\*, & Van Zandt, T. (2022). 30.3 Eye-Tracking, Gaze, and Pupil Dynamics in ADHD: Biofeedback Possibilities During Novel Perceptual Conflict Task. *Journal of the American Academy of Child & Adolescent Psychiatry*, 61(10), S323.
3. Painter, Q. A.\*, Ging-Jehli, N., Arnold, L. E., Roley-Roberts, M. E., & Pan, X. J. (2022). 30.4 The Effect of ASD Features on Neurocognitive Change With Neurofeedback in ADHD: New ICAN Data. *Journal of the American Academy of Child & Adolescent Psychiatry*, 61(10), S323.
4. Roley-Roberts, M., Kerson, C., Ging-Jehli, N., & Pan, X. (2021). 30.2 Moderating Effects of Psychiatric Diagnoses on Neurofeedback for ADHD at 25-month Follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry*, 60(10), S304.
5. Ging-Jehli, N., Arnold, L. E., deBeus, R., Roley-Roberts, M., & Kraemer, H. (2021). 30.4 Underlying Cognitive Components Respond to Neurofeedback For ADHD And Moderate Clinical Outcome. *Journal of the American Academy of Child & Adolescent Psychiatry*, 60(10), S305.

6. Arnold, L. E., Roley-Roberts, M. E., [Ging-Jehli, N.](#), Kerson, C., Pumphrey, K., & Loo, S. K. (2020). ADHD Neurofeedback 25-Month Follow-Up, Moderation of Response, and Neurocognitive Subtyping. In *2020 Virtual Meeting*. AACAP.

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### CURRENT PROJECTS

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- A unified modeling approach, integrating sequential sampling models with neurocomputational models
- Characterize disorder-specific and transdiagnostic features across cognitive and social domains
- Neuronal and attentional signatures of attention-deficit/hyperactivity disorder (ADHD) within a novel cognitive flexibility task
- Characterizing bipolar disorder, depression, and schizophrenia: disentangling the roles of working memory and reinforcement learning
- Computational phenotyping of obsessive-compulsive disorders (OCD) within approach-avoidance Processing context

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### SELECTED PUBLIC OUTREACH AND PRESS RELEASES

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Interview on the weekly "Wellness Wednesday" show on "All Sides with Ann Fisher" - a live public affairs talk show on WOSU-NPR (89.7 FM) Radio in Columbus, Ohio. Link: [Radio Interview on Computational Psychiatry and ADHD - YouTube](#)

Interview with Psychiatry & Behavioral Health Learning Network (Magazine). Link: [Using Computational Models to Improve ADHD Diagnosis and Treatment \(hmpgloballearningnetwork.com\)](#)

Press coverage in *The Science Times*. Link: [Computational Models Could Help Diagnose Children with ADHD | Science Times](#)

Press release: [A pursuit of better testing to sort out the complexities of ADHD \(osu.edu\)](#)

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### AD HOC JOURNAL REVIEWS (N ≥ 31)

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Biological Psychiatry; Brain; Clinical EEG and Neuroscience; Cognitive, Affective, & Behavioral Neuroscience; European Child & Adolescent Psychiatry; Frontiers in Psychology; Journal of Autism and Developmental Disorders; Journal of Cognitive Neuroscience; Molecular Psychiatry; Nature Communications; NeuroImage; Neuropsychology; Neuroscience and Biobehavioral Reviews; Psychological Medicine; Science Advances

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### RESEARCH GRANTS

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Carney Institute's Advancing Research Careers (ARC) program (NINDS/NIH) for implementing independent research project "smartphone-based perpetual games with mechanistic neurocognitive assessments" (Amount: USD 25,000)	2023 – 2025
Swiss National Science Foundation for implementing independent research project "Using Computational Psychiatry to explore transdiagnostic features of neurodevelopmental- and mood-related disorders" (Amount: CHF 10,000)	2023 – 2025
Swiss National Science Foundation for implementing independent research project: "Using Computational Psychiatry for Phenotyping ADHD" (Amount: CHF 3,000)	2019 – 2020

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### AWARDS AND HONORS

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<b>Travel Award for the American College of Neuropsychopharmacology (ACNP) conference</b>	2023
<b>ThinkSwiss &amp; Fullbright Alumni Travel Award</b> , Embassy of Switzerland in the USA	2023
<b>Swiss National Science Foundation Postdoc Award</b> , Switzerland	2023
<b>Travel &amp; Networking Award</b> , Women of Mathematical Psychology	2023
<b>NIH Computational Psychiatry Postdoctoral Training (T32)</b> , Brown University, USA	12/2022 – 09/2023
<b>Presidential Fellowship</b> , The Ohio State University, USA	08/2021 – 08/2022

<b>Swiss National Science Foundation</b> Graduate Fellowship, Switzerland	01/2019 – 12/2020
<b>University Fellowship</b> , The Ohio State University, USA	08/2017 – 08/2018
<b>Graduation with honor:</b> magna cum laude, University of Zurich, Switzerland	2017
<b>Graduation with honor:</b> magna cum laude, University of Zurich, Switzerland	2014
Named to the <b>Dean's List</b> in recognition of outstanding academic achievements, Switzerland	2012
Awarded the <b>Rieter-Prize</b> for the best Bachelor Thesis in 2012, Switzerland	2012

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#### ACADEMIC PRESENTATIONS (CONFERENCES AND INVITED TALKS)

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<b>Oral Presentation</b>	“Innovating Approaches in Social-Cognitive Neuroscience & Computational Psychiatry – Empirical Evidence for ADHD & Depression” Invited talk at Rebecca Saxe Lab Meeting, Massachusetts Institute of Technology, Boston (USA)	2024
<b>Oral Presentation</b>	“Decoding Complexity: A Deep Dive into Mechanistic Computational Phenotyping for ADHD and Depression” at the American College of Neuropsychopharmacology (ACNP) Annual Conference Meeting, Tampa FL (USA)	2023
<b>Oral Presentation</b>	“Combining mechanistic tasks with innovative sequential sampling models to different slow-down mechanisms” at the New England Research on Decision-Making (NERD) conference, Boston (USA)	2023
<b>Oral Presentation</b>	“Cognitive Role of EEG Theta/Beta-Ratio for Behavior: Accounting for ADHD Heterogeneity” at the American Academy of Child and Adolescent Psychiatry (AACAP) conference, New York City (USA)	2023
<b>Oral Presentation</b>	“Towards a better ecosystem for managing, caring, and researching mental health conditions” at the ThinkSwiss Event at the Swiss Embassy, Washington DC (USA)	2023
<b>Oral Presentation</b>	“Dissecting decision dynamics in the basal ganglia” at the Mathematical Psychology Conference, Amsterdam (NL)	2023
<b>Poster Presentation</b>	“Multidimensional computational phenotyping of anhedonia & depression” at the Computational Psychiatry Conference, Dublin (IE)	2023
<b>Oral Presentation</b>	“Using game theory and experimental economics to study social-cognitive characteristics in ADHD”, at the Social-Cognitive Seminar Series at Brown University, Providence RI (USA)	2023
<b>Poster Presentation</b>	“Broader visual processing and distinct pupil dynamics facilitate perceptual conflict and compensate for ADHD distractibility”, at the Mental Effort Workshop, Providence RI (USA)	2022
<b>Oral Presentation</b>	“Eye-tracking, Gaze, and Pupil Dynamics in ADHD: Biofeedback Possibilities during Novel Perceptual Conflict Task”, at the American Academy of Child and Adolescent Psychiatry (virtually), Toronto (CA)	2022
<b>Oral Presentation</b>	“Addressing ADHD and comorbidities with computational psychiatry: using new integrative testing; refining clinical characteristics; and tailoring treatments”, invited talk at Brown University, USA	2022
<b>Oral Presentation</b>	“Personalized medicine using computational psychiatry”, at the American Academy of Child and Adolescent Psychiatry (virtual due to COVID-19)	2021
<b>Oral Presentation</b>	“Neurocognitive subtyping of ADHD by Computational Psychiatry”, at the International Conference on ADHD by CHADD (virtual)	2020
<b>Oral Presentation</b>	“Using Computational Modeling as a Moderator Analysis to Understand the Benefits of Neurofeedback for ADHD”, at the American Academy of Child and Adolescent Psychiatry (virtual due to COVID-19)	2020

<b>Poster Presentation</b>	“Computational Psychiatry: Studying ADHD in neurocognitive tests”, at the Society for Neuroscience Conference, Chicago, IL (USA)	2019
<b>Oral Presentation</b>	“ADHD/ASD – A different way how to perceive the world”, at the Cincinnati Children’s Hospital Medical Center, USA	2019
<b>Poster Presentation</b>	“On the implementation of computational psychiatry to study ADHD”, at the Institute for Behavioral Medicine Research Conference, The Ohio State University, USA	2019
<b>Poster Presentation</b>	“Generosity across contexts” at the Social Norms and Institutions, International Conference at the Congressi Stefano Franscini (CSF) of ETH Zurich, Ascona, TI (CH)	2015

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## TEACHING

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<b>Sheridan Teaching Seminar (Certificate I), Brown University</b>	2023
Designing and preparing an (online) course: “Foundations of Computational Psychiatry Toolkits and Applications” Excerpt: <i>In this course, we go beyond the typical focus on technical modeling skills. Instead, we cover different tools and delve into the holistic process of computational modeling in psychiatry.</i>	
<b>Graduate Teaching Associate, The Ohio State University</b>	2021
Preparation and presentation of lectures, preparing syllabi, preparing homework and quizzes, supervision of group work, grading homework, assignments, tests and quizzes. The first two courses are undergraduate and graduate level courses. The last three courses are undergraduate level courses. PSYCH2220: Data Analytics in Psychology PSYCH5613H: Biological Psychiatry PSYCH5614: Cognitive Neuroscience PSYCH3331: Abnormal Psychology PSYCH4475: Psychology of The Self	
<b>Apprenticeship Trainer, UBS AG</b>	2008 – 2011
Preparation and presentation of lectures in economics, banking, and finances. Supervision of apprentices (including developing, conducting, and grading essays, assignments and quizzes).	

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## SUPERVISION OF UNDERGRADUATE AND GRADUATE STUDENTS

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Advising graduate student (Ziwei Cheng) and postgraduate student (Hayley Brooks) in Cognitive computational modeling at Brown University	01/2024 – current
Advising engineering student (Swarag Thaikkandi) in cognitive computational modeling at Brown University (as part of a Conte Center grant)	09/2022 – current
Advising data science student (Shiqi Wang) in statistical analyses & machine learning (1 semester) at Brown University	09/2023 – 12/2023
Advising undergraduate capstone project (1 semester) in decision sciences (Elizabeth Duchan) at Brown University	09/2023 – 12/2023
Advising medical student (Ahmed Abdelbaki) in statistics at The Ohio State University	08/2023 – 12/2023
Advising clinical/medical graduate students (Pranavan Chanthrakumar, Quinn Painter) and undergraduate students (Qile Jiang) in computational modeling	09/2022 – 04/2023
Advising undergraduate research assistants (Karly Britt, Aditya Maraju, Prateek Palsule, Jacob Sellers) in the Van Zandt lab (mentoring in: conducting statistical analyses, collecting eye-tracking and EEG data, applying computational models, applying to graduate school)	08/2020 – 05/2022
Advising research assistants (Shea Connor, Alex Lingel, Madeline Thomas, Catherine Panchyshyn) in conducting laboratory experimental paradigms	02/2019 – 12/2019

(research assistants from various labs)

Advising research assistants (Justin Voyzey, Sam Stelnicki, Saarthak Gaur) in conducting eye-tracking studies (research assistants from various labs) 01/2018 – 12/2018

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### UNIVERSITY AND COMMUNITY SERVICE

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Symposium organizer “Frontiers in Computational Psychiatry: Synthesizing cross-disciplinary insights & clinical applications, Computational Psychiatry Conference, Minnesota (USA) 2024

Advisor for students’ capstone projects in decision sciences 2023

Modeling advisor for the open-source HDDM toolbox (helping resolving modeling issues) 2022

Statistical advisor for medical and clinical students conducting statistical analyses in SPSS and R 2022

Undergraduate Mentor for PhD applications (writing workshop, review materials, interview training) 2020-2022

Guest lecture in an undergraduate course: how to find research topics and how to apply for PhD programs 2021

Internal workshop for undergraduates: Using R to simulate data with the diffusion decision model 2019

Guest lecture as a volunteer at the high school in Pfaffikon, ZH (Switzerland). Topic: “What is Macroeconomics and how to handle money responsibly?” 2011

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### PROFESSIONAL MEMBERSHIPS

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Psychonomic Society  
Society for Mathematical Psychology  
Society for Neuroscience  
Member of SwissImpact  
Transcontinental Computational Psychiatry Workgroup (TCPW)  
Women of Mathematical Psychology

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### ADDITIONAL TRAINING

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#### Neuroscience

**Computational Cognitive Neuroscience** (1 semester; course by Michael J. Frank), Brown University 2023

**Foundation of Neuroscience I and II**, School of Medicine (1 year), Ohio State University 2018/2019

**Behavioral Endocrinology**, School of Medicine (1 semester), Ohio State University 2018

#### Computational Modeling

**Reinforcement Learning** Workshop (1 day), Mathematical Psychology Conference 2023

**Dynamic Causal Modeling** Workshop (2 days), Brown University 2022

**Computational Modeling** Workshop (2 weeks), Carney Center for Computational Brain Science 2022

**Modeling EEG Data** Workshop (2 weeks), Brainstorm EEG Challenge, Brown University 2022

**Computational Psychiatry** Workshop (1 week), Zurich (Switzerland) 2019

#### IT & MedTech

**Med Tech Leadership** Program (6 months), New England Medical Innovation Center 2022/2023

**European Computer Driving License Certificate** (1 year), Chur (Switzerland) 2007

**Swiss IT Certificate** (1 year), Chur (Switzerland) 2007

#### Leadership & Teaching

**Sheridan Teaching Certificate** (1 semester), Brown University 2023

**Leadership** Workshop for **apprenticeship trainers** (1 week), UBS AG 2008

## PROGRAMMING & TECHNICAL PROFICIENCY

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Proficient in **R**; Advanced in **STATA**, **SPSS**, and **WinBUGS**, Knowledge in **SAS** and **JASP**

Proficient in **MATLAB** (including toolboxes: **Psychtoolbox**, **Signal Processing**, **ERPLab**)

Proficient in **z-Tree (programming language: C++)**; a free program for real-time interactions used in laboratory economic experiments

Proficient in conducting **eye tracking** studies using **eyelink** and **gazeport**

Proficient in **Stan**

Advanced in **Python**, **LATEX**, **Fortran**

Proficient in working with operating systems: **Linux**, **IOS** (mac), and **Microsoft**

Advanced in conducting **full-cap** electroencephalographic (**EEG**) studies

Advanced in writing **bash scripts**

Knowledge in collecting and analyzing **fMRI** data

## COMPUTATIONAL MODELING & MACHINE LEARNING PROFICIENCY

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Proficient in using of different computational modeling packages: **brms** package for **RStan**, **HDDM** in **Python**, **DMC** in **R**, **fast-DM**, diverse inhouse codes in **Matlab**, **Fortran** and **RStan** (programming own functions)

Proficient in implementing different **computational models** (e.g., sequential sampling models, descriptive distribution models) within **Bayesian** and **Frequentist** frameworks

Proficient in applying different **machine learning** algorithms (e.g., **support vector**, **clustering**, **logistic regression**, **neural networks**, **principal and independent component analyses**, **factor analyses**)

## STATISTICAL PROFICIENCY

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Proficient in **multi-level linear mixed modeling** and **Bayesian hierarchical modeling**

Proficient in **moderator** analyses and **mediator** analyses (particularly for randomized clinical trials)

Proficient in **ANOVAs**, simple and multivariate **regressions**

Proficient in **Time Series Analyses**

Knowledge in **structural equation modeling** and **dynamic causal modeling**

## LANGUAGE PROFICIENCY

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**German** – Native (Swiss citizen)

**English** – Full Professional Proficiency (oral and written); First Certificate in English; TOEFL iBT English Diploma (reading: 29 of 30, speaking: 28 of 30, listening: 28 of 30, writing: 28 of 30, total score: 113)

**French** – Full Professional Proficiency (oral and written); DELF A1, A2, A3 and A4

**Italian** – Basic (oral and written), DELI-diploma