**MĀRTIŅŠ MARKS GATAVIŅŠ**

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**EDUCATION**

**University of Pennsylvania, College of Arts & Sciences**

B.A., GPA: 3.79, Expected graduation: May 2023

Major: Neuroscience (with Honors)

Minors: Chemistry, Computational Neuroscience, Psychoanalytic Studies

Coursework (graduate in **bold**): **Statistics for Data Science**, **Computational & Theoretical**

**Neuroscience, Big Data Analytics,** Neurobiology of Learning & Memory

**RESEARCH EXPERIENCE**

2020 - present **Research Assistant –** Changing Brain Lab (PI: Allyson P. Mackey), Psychology, University of Pennsylvania.

* + - Assisted with MRI scan preprocessing and brain editing using FreeSurfer in a cluster environment
    - Administered and scored neuropsychological tests to children ages 4-8
    - Analyzed structural, functional MRI and diffusion tensor imaging data using R and python using linear models, network analysis toolboxes, and presenting results using data visualization techniques
    - Summer internship: led a project analyzing sulcal topology and its relationship to gyrification in a structural MRI dataset, created and presented a poster

Project with Dr. Ivan Simpson-Kent: *Multilayer Associations between the Exposome, and Structural and Functional Brain Networks in Middle to Late Childhood*

2022 – present **Biomedical Informatics (Summer Full-time, Fall to Spring Part-time) Intern** –Medical Imaging and Data Science Lab (PI: Aristeidis Sotiras), Computational Imaging Research Center, Mallinckrodt Institute of Radiology, Washington University Medical School in St. Louis

* Led independent research efforts on a project using functional MRI data in brain age prediction algorithms
* Coded and tested several machine learning prediction algorithms and graph-theoretic measure extraction
* Performed statistical analyses with behavioral and neuroimaging data
* Wrote and reviewed manuscripts for publication

Projects with Robert J. Jirsaraie, Dr. Deanna M. Barch, and Dr. Aristeidis Sotiras:

1. *Longitudinal Brain Age Prediction using Functional MRI measures and graph theory: an assessment of accuracy, reliability, and utility (name TBD)*
2. *Literature review: Assessing Tradeoff between Model Accuracy and Utility in Multimodal Brain Age Prediction models (name TBD)*

**HONORS, AWARDS, & FELLOWSHIPS**

2022 **ISDP Travel Award**, International Society for Developmental Psychobiology Hybrid Meeting ($325)

2021-2022 **Dean’s List**, College of Arts & Sciences at the University of Pennsylvania

2022 **University Scholars Summer Funding,** Center for Undergraduate Research & Fellowships at the University of Pennsylvania ($4500)

2021-2023 **University Scholar,** Center for Undergraduate Research & Fellowships at the University of Pennsylvania

2021 **Penn Undergraduate Research Mentoring (PURM) Fellowship**,Center for Undergraduate Research & Fellowships ($4500)

2019-2021 **College House Research Fellowship,** Ware College House and Center for Undergraduate Research & Fellowships at the University of Pennsylvania ($1500)

2019-2023 **Penn World Scholars Undergraduate Scholarship**, International Scholar & Student Services at the University of Pennsylvania

**POSTERS, PRESENTATIONS, ABSTRACTS (\* denotes undergraduate conferences)**

2022**Mārtiņš M. Gataviņš**, Ivan L. Simpson-Kent, Anne T. Park, Ursula A. Tooley, Austin L. Boroshok, Cassidy L. McDermott, Lourdes D. Reyes, Joe Bathelt, Allyson P. Mackey. *Multilayer network associations between functional brain development and home and neighborhood exposomes.* [Poster] International Society for Developmental Psychobiology. San Diego, USA. November

**Mārtiņš M. Gataviņš**, Ivan L. Simpson-Kent, Allyson P. Mackey. *Multilayer network associations between functional brain development and home and neighborhood exposomes.* [Poster] Penn Fall Research Expo**\***. Philadelphia, USA. September

Austin L. Boroshok, Cassidy L. McDermott, Anne T. Park, Ursula A. Tooley, **Mārtiņš M. Gataviņš**, Allyson P. Mackey. *Associations between Cortical Myelination and Chronological Age in Early Childhood.* [Poster] Flux Congress. Paris, France. September

Ivan L. Simpson-Kent, **Mārtiņš M. Gataviņš**, Anne T. Park, Ursula A. Tooley, Austin L. Boroshok, Cassidy L. McDermott, Lourdes D. Reyes, Allyson P. Mackey. *Exploring Multilayer network associations between brain structure and function, and the exposome in middle to late childhood.* [Symposium Talk] Flux Congress. Paris, France. September

**Mārtiņš M. Gataviņš**, Robert J. Jirsaraie, Deanna Barch, Aristeidis Sotiras. *Comparison of conventional and graph measures in resting-state functional MRI-based brain age predictions: accuracy and developmental psychopathology biomarker utility.* [Poster] BIDS Poster Session**\***. St. Louis, USA. August

2021 **Mārtiņš M. Gataviņš**, Cassidy L. Dermott, Allyson P. Mackey. *Cortical Thinning in the Central Sulcus is Associated with Gyrification Processes, Sensorimotor Development and Environmental Pressures.* [Poster] Penn Fall Research Expo**\***. Philadelphia, USA (virtual). September

**PROFESSIONAL AND VOLUNTEER EXPERIENCE**

2021 – present **Penn Anti-Violence Educator –** Penn Violence Prevention

Presented and facilitated 10+ presentations to on-campus groups about interpersonal violence, healthy relationships, consent, and bystander intervention

2019 – present  **Peer Counselor (and Community Engagement Director for 2021) –** Penn Benjamins, University of Pennsylvania

* Provided 50+ hours of peer counseling services to undergraduate students at Penn both online and in-person (after 35 hours of training)
* Organized inter-club events on topics of mental health justice, self-care, trauma-centered care, and suicide prevention

2019 – 2021  **Global Health Education Committee Member –** GlobeMed at Penn

**Co-President of Global Health Education Committee**

Prepared and presented 20+ presentations on global health: health economics, biomedicine and society, public health issues, healthcare delivery, international health organizations, and politics

2019 – 2021 **Biomedical Annotator –** Linguistic Data Consortium, University of Pennsylvania

Transcribed 3+ hours of interviews for phonetic and syntactic analysis to create a diagnostic app for ASD, dementia, and neurodegenerative disease development across lifespan

**TECHNICAL SKILLS**

**Programming:** Strong command ofPython, MATLAB, Java, R

Proficient in SQL, pyspark, Linux/bash/shell (cluster computing)

Previous experience using high-performance computing

**Software:** FreeSurfer, fMRIPrep, xcpEngine, MRIQC, RedCAP

**Other:** Brain Editing (quality checking) in FreeSurfer, graph-theoretic methods in neuroscience, neuropsychological testing (Wechsler Intelligence Scale for Children, Wechsler Preschool and Primary Scale of Intelligence, Woodcock-Johnson Tests of Achievement, KeyMath Diagnostic Assessment)