VALERIA KEBETS

Canadian PR, Swiss citizen | Montreal, Canada | linkedin.com/in/valkebets

ABOUT

Project manager with 13+ years of interdisciplinary experience in applied and academic research in AI and neuroscience.
Interested in using my expertise for projects that have positive societal impact.

EXPERIENCE

Manager of Machine Learning Projects

Concordia University - Applied AI Institute

09/2023 – Present | Montreal, Canada

- Leads and supports an interdisciplinary team in developing responsible AI-based applications for industry, non-for-profit organisations, and government.
- Responsible for end-to-end planning, coordination, execution and delivery of R&D projects in machine learning
- Communicates with stakeholders to assure transparency and awareness of projects progress and issues.

Postdoctoral Research Scientist

McGill University

01/2021 – 05/2023 | Montreal, Canada

- Led several research programs that required management of large multi-modal datasets, data processing, feature extraction, advanced statistical modelling including machine learning and deep learning, data visualization, generating research reports, and dissemination to scientific and lay audiences
- Wrote reproducible Python, R, and MATLAB code
- Mentored undergraduate and graduate students

Postdoctoral Research Scientist

National University of Singapore

08/2017 – 07/2020 | Singapore

- Developed unsupervised machine learning models to identify shared biological markers across psychiatric disorders
- Taught a course on unsupervised learning and co-developed an open source toolbox
- Collaborated across a diverse team that includes engineers, psychiatrists, and cognitive neuroscientists

Graduate Research Assistant

University of Geneva

03/2012 – 11/2016 | Geneva, Switzerland

- Developed supervised learning models to predict early diagnosis of Alzheimer's disease using MRI data
- Facilitated liaisons between engineers, neurologists, neuropsychologists and cognitive neuroscientists

EDUCATION

Ph.D. in Neuroscience

University of Geneva

2012 – 2016 | Geneva, Switzerland

- Advisors: Prof. Dimitri Van De Ville and Prof. Frederic Assal
- Thesis: Functional imaging markers of the MCI brain in task and at rest: detecting memory and connectivity impairments in prodromal Alzheimer's disease
- Keywords: neuroimaging, machine learning, prediction, biomarker development

M.Sc. in Clinical Neuroscience

University College London

2009 – 2010 | London, United Kingdom

- Advisor: Prof. David J. Werring
- Thesis: Neuroimaging correlates of vascular cognitive impairment: prevalence and functional significance of mesial temporal lobe atrophy
- Keywords: neuroimaging, stroke, cognition, radiological marker

B.Sc. in Psychology

University of Geneva

2006 – 2009 | Geneva, Switzerland

SKILLS

project management | leadership | agility | attention to detail | effective communication | autonomy | creative problem solving | mentoring | machine learning | Git | Python | medical data

CERTIFICATIONS

Deep Learning Specialization (Coursera)

LANGUAGES

French
English
Russian

SELECTED HONORS AND AWARDS

Jeanne Timmins Costello Fellowship from the Montreal Neurological Institute (**40'000 CAD**) for the project *"A multimodal and dimensional approach to study typical and atypical neurodevelopment"* (2022-2023)

Travel awards (total ~6,000 CAD) from the Quebec Bio-Imaging Network, Swiss National Science Foundation, Jean-Falk Vairant Foundation, and Lemanic Neuroscience Doctoral School to attend international conferences (2012-2022)

Finalist for Somerfeld-Ziskind Research Award, recognizing outstanding research investigations in biological psychiatry (2021)

Quebec Autism Research Training Fellowship from the Transforming Autism Care Consortium (**40'000 CAD**) for the project *"Neurodevelopmental subtypes informed by hierarchical brain network features"* (2021)

Project grant from the Boninchi Foundation (**75'000 CHF**) for the project *"A multimodal marker to predict the progression to Alzheimer's disease"* (2016)

Scholarship (**10'000 CHF**) from the Association Suisse des Femmes Diplômées des Universités (2015)

Travel Mobility Grant (**11'600 CHF**) from the Swiss National Science Foundation to visit the Functional Imaging in Neuropsychiatric Disorders Lab, Stanford University, Stanford, CA, USA (2013-2014, 6 months)

SELECTED INVITED TALKS

- Unsupervised machine learning approaches in psychiatric neuroimaging, Organization for Human Brain Mapping Annual Meeting (Singapore 2018, Virtual 2020)
- Identifying transdiagnostic patterns of neural dysfunction, Feindel Brain Imaging Lecture Series, Montreal, Canada (2019)
- Somatosensory-motor dysconnectivity spans multiple transdiagnostic dimensions of psychopathology, Organization for Human Brain Mapping Annual Meeting, Rome, Italy (2019)
- Connectivity-mediated dimensions of psychopathology across mental health and disease, Summer Whistler Scientific Workshop on Brain Functional Organization, Connectivity and Behavior, Noosa, Australia (2019)
- Multivariate and predictive modelling of neural variability in mild cognitive impairment, International Workshop on Pattern Recognition in Neuroimaging, Singapore (2018)
- Predicting pure amnestic mild cognitive impairment conversion to Alzheimer's disease using joint modeling of imaging and clinical data, International Workshop on Pattern Recognition in Neuroimaging, Stanford, CA, USA (2015)
- Structural and functional alterations in presymptomatic Alzheimer's disease revealed by multivariate pattern analysis, Annual Meeting of the Society for Neuroscience, San Diego, CA, USA (2013)

SELECTED PUBLICATIONS

1. **Kebets V***, Perrault AA*, Kuek NMY, Cross NE, Tesfaye R, Pomares FB, Li J, Chee MWL, Dang Vu TT, Yeo BTT. A multidimensional investigation of sleep and biopsychosocial profiles with associated neural signatures. *BioRxiv (2024).*
2. **Kebets V***, Royer J*, et al. Multimodal neural correlates of childhood psychopathology. *eLife (2024), 13:e87992.*
3. Chen J*, Tam A*, **Kebets V**, et al. Shared and unique brain network features predict cognitive, personality, and mental health scores in the ABCD study. *Nature Communications (2022), 13, 2217.*
4. Benkarim O, Paquola C, Park B, **Kebets V**, et al. Population heterogeneity in clinical cohorts affects the predictive accuracy of brain imaging. *PLOS Biology (2022), 20(4), e3001627.*
5. **Kebets V**, et al. Fronto-limbic neural variability as a transdiagnostic correlate of emotion dysregulation. *Translational Psychiatry (2021), 11, 545.*
6. **Kebets V**, et al. Somatosensory-motor dysconnectivity spans multiple transdiagnostic dimensions of psychopathology. *Biological Psychiatry (2019), 86, 779-91.*
7. **Kebets V**, et al. Multivariate and predictive modelling of neural variability in mild cognitive impairment. *8th International Workshop on Pattern Recognition in Neuroimaging (2018).*
8. **Kebets V***, Wegrzyk J*, et al. Identifying motor functional neurological disorder using resting-state functional connectivity. *Neuroimage: Clinical (2018), 17, 163-8.*
9. **Kebets V**, et al. Predicting pure amnestic mild cognitive impairment conversion to Alzheimer's disease using joint modeling of imaging and clinical data. *5th International Workshop on Pattern Recognition in Neuroimaging (2015).*
10. **Kebets V***, Gregoire SM*, Charidimou A*, et al. Prevalence and cognitive impact of medial temporal atrophy in a hospital stroke service: retrospective cohort study. *International Journal of Stroke (2015), 10(6), 861-7.*

* Authors contributed equally