



Jan Vávra

Post-doc fellow

- 4 December 1993, Hořice, CZ
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Short Bio

Jan has been educated by KPMS MFF UK in Statistics with specialization in structural Bayesian models. He resisted the temptation of a corporate career at MSD IT and decided to get a PhD first. After finishing his PhD in January 2023 he stayed in academia as a post-doc in a research project jointly conducted by WU Wien and PLUS.

Skills

Programming:

- R ●●●●●
- Python ●●●●●
- \LaTeX ●●●●●
- HP computing ●●●●●
- C ●●●●●
- JAGS, Stan ●●●●●
- MATLAB ●●●●●

Tools:

- R Markdown, Shiny ●●●●●
- TensorFlow ●●●●●

Languages:

- Czech (mother tongue) ●●●●●
- English (C1, UNICert@III) ●●●●●
- German ●●●●●

Working Experience

- 2023 – ongoing **Post-doc fellow** WU Wien & PLUS, AT
Researcher in the OeNB Jubiläumsfonds project n. 18718
Analysis of central bank communication using advanced text modeling methods
- 2020 – ongoing **Consultant** FTVS, Charles University, CZ
Consultations regarding statistical analyses of diploma theses
- 2019 – 2023 **Lecturer** MFF, Charles University, CZ
Exercise classes, other teaching support, see below
- 2018 **Intern** MSD IT, Data Science team in Prague, CZ
Gene-expression data analyses, automated reports in Pipeline Pilot

Education

- 2018 – 2023 **RNDr., Ph.D.** MFF, Charles University, CZ
Probability and statistics, econometrics and financial mathematics
Thesis: Model-based Clustering of Multivariate Mixed-type Longitudinal Data
Supervisor: doc. RNDr. Arnošt Komárek, Ph.D.
- 2016 – 2018 **Master's degree (Mgr.)** MFF, Charles University, CZ
Probability, mathematical statistics and econometrics
magna cum laude
Thesis: Bayesian Factor Analysis
Supervisor: doc. RNDr. Arnošt Komárek, Ph.D.
- 2013 – 2016 **Bachelor's degree (Bc.)** MFF, Charles University, CZ
General mathematics with specialization in Stochastics
magna cum laude
Thesis: Homoscedasticity Tests in a Linear Model
Supervisor: doc. RNDr. Arnošt Komárek, Ph.D.
- 2013 **Maturita exam** Gymnázium, SOŠ, SOU, VOŠ Hořice, CZ
Czech, English and Mathematics (magna cum laude)

Teaching Experience

- 2019 – 2023 **NMST531: Censored data analysis** MFF, Charles University, CZ
R-based exercise class with on-line materials
parametric models for censored data, non-parametric estimation of survival function, logrank tests, the Cox proportional hazards model
- 2018 – 2023 **Additional teaching support** MFF, Charles University, CZ
at Department of Probability and Mathematical Statistics
student homework evaluation: Linear regression, Advanced regression models, Modern statistical methods
test corrections, substitute teaching, bachelor theses opponent

Research Projects and Grants

- 2020 – 2022 **GA UK n. 298120** Charles University Grant Agency
Modelling of Multivariate Mixed Type Panel Data

Honours and Awards

- 2022 PhD student competition - shared 2nd place ROBUST
- 2021 PhD student competition - 1st place MME
- 2018 Best diploma thesis - shared 3rd place KPMS MFF UK

Profiles



Interests

- Bayesian statistics
- MCMC approximations
- Variational inference
- Model-based clustering
- Hierarchical Poisson factorization

Personal

Jan comes from Ostroměř, a small village in the Czech Republic. He is an active member of the local Sokol organization with trainer licence of 3rd class, helps with summer camps, dancing courses, events. He has a positive relationship with any sport activity, primarily floorball. He prefers to commute by bike to work. His ideal vacation is set in the mountains with breathtaking views. Each year he spends a week on a bike trip with his friends. He plans to settle down in (the vicinity of) Prague with his current girlfriend.

Hobbies

- floorball, cycling
- badminton, table tennis
- hiking, running
- Sokol
- card, board and strategy games
- fantasy (audio)books

Publications

Published Contributions to *Statistics & Probability*

- 2023 **Clusterwise multivariate regression of mixed-type panel data** *Statistics and Computing*
J. Vávra, A. Komárek, B. Grün, and G. Malsiner-Walli
<https://doi.org/10.1007/s11222-023-10304-5>
- 2022 **Classification based on multivariate mixed type longitudinal data: With an application to the EU-SILC database** *Advances in Data Analysis and Classification*
J. Vávra and A. Komárek
<https://doi.org/10.1007/s11634-022-00504-8>

Contributions to *Statistics & Probability* under Development

- 202? **Revisiting group differences in high-dimensional Choices: Method and application to congressional speech** under 2nd revision for *Journal of Applied Econometrics*
P. Hofmarcher, B. Grün, S. Adhikari and J. Vávra
- 202? **Evolving Voices Based on Temporal Poisson Factorisation** under revision for *Statistical Modelling*
J. Vávra, B. Grün, and P. Hofmarcher
- 202? **A Structural Text-Based Scaling Model**
J. Vávra, B. Prostmaier, B. Grün, and P. Hofmarcher
- 202? **A Temporal Structural Text-Based Scaling Model**
J. Vávra, B. Grün, and P. Hofmarcher
- 202? **R package clustGLMM**
J. Vávra, B. Grün, G. Malsiner-Walli and A. Komárek

Contributions to other Research Areas

- Jebavy, R., Blazek, D., Vomáčková, H., Vávra, J., Busta, J., Pisz, A., Stastny, P. (2023). The effectiveness of resistance exercises performed on stable and unstable surfaces in relation to torso activation. *Baltic Journal of Health and Physical Activity*. 15. 10.29359/BJHPA.15.4.08.
- Babický L., Nováková T., Vávra J., Žáková L. (2020). Current physical activity and sports history of children 11 to 19 years old at high schools in Prague. *AUC KINANTHROPOLOGICA*. 56. 98-115. 10.14712/23366052.2020.10.
- Nováková T., Černá M., Vávra J. Výskyt insuficience fixace lopatek a plochonoží v kontextu screeningu posturálních poruch v mladším školním věku. *Rehabilitace a fyzikální lékařství*, 2020, vol. 27, s. 191-200. ISSN 1211-2658.

Reviewer for Journals

- Journal of Multivariate Analysis*
- Computational Statistics*
- Advances in Statistical Analysis*

Conferences

Organization

2023 co-organizer of EYSM

Presentation

2024 ASD, ROBUST, CMStatistics
2022 ASSD, ROBUST, IWSM, ISCB, CMStatistics
2021 MME, EYSM
2020 MME
2019 ISCB, IWSM

December 28, 2024

Jan Vávra