

Philip Tovstogan

Curriculum Vitae

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📍 Barcelona, Spain

Work Experience

- 2024 **Senior Backend Engineer**, *Audioshake*, Barcelona, Spain.
 - Infrastructure improvement, optimization of inference pipelines
- 2023–2024 **ML Engineer**, Barcelona, Spain, (freelance).
 - Consulting in Music AI: MIR, Generative AI, Data Science, Deep Learning, MLOps
- 2022–2023 **ML/Data Engineer**, *Utopia Music*, Barcelona, Spain.
 - Improvement and optimization of data pipelines for analysis of massive music collections
 - Research and deployment of new DL models and improvement of surrounding infrastructure
 - Improvement, optimization, and modernization of the micro-service tech stack
 - Issues identification, stabilization, and resource optimization of K8S cluster
- 2021 **Researcher**, *Jamendo*, Luxembourg, (remote internship).
 - Track-to-track music recommendations based on music embeddings
- 2018–2021 **Predoctoral Researcher**, *Music Technology Group*, Barcelona, Spain.
 - User-centric evaluation of auto-tagging models for music exploration and recommendation
 - Organization of challenges to push SOTA of auto-tagging models
- 2018 **Software Developer**, *Music Technology Group*, Barcelona, Spain, (internship).
 - [Freesound.org](https://freesound.org): implementation of new features and bugfixes
- 2017 **Software Developer**, *LyraVR*, Taipei, Taiwan.
 - Cross-platform support: HTC Vive, Oculus Rift
- 2016–2017 **R&D Engineer**, *Bovia*, Zhubei, Taiwan.
 - Implementation of Flask-Restful API to control linux system configuration
 - R&D of CI pipelines for firmware building for multiple embedded platforms
 - Establishment of early infrastructure, engineering processes, and system administration
- 2014–2016 **Software Developer**, *Information and Communications Research Laboratories, Industrial Technology Research Institute*, Hsinchu, Taiwan, (part-time → full-time).
 - R&D of embedded system projects based on BeagleBone Black and Intel Edison
 - Systems and architecture design for selected corporate systems
- 2012–2014 **Research and Teaching Assistant**, *Multimedia Communications Lab, National Yang Ming Chiao Tung University*, Hsinchu, Taiwan.
- 2011–2012 **Software Developer**, *ChangingTec*, Hsinchu, Taiwan, (internship).

Skills

- Knowledge Music information retrieval, deep learning, auto-tagging models, recommendation systems, user-centric evaluation, audio signal processing, system design, clean code
- Tech Python, PyTorch, TensorFlow, FastAPI, AWS CDK, TS/JS, TerraForm, MLFlow, K8S, Git, Linux, Docker, Flask, PostgreSQL, GCP, Helm, GitHub Actions, GitLab CI

Education

- 2018–2022 **Ph.D.**, *Music Technology Group, Universitat Pompeu Fabra*, Barcelona, Spain.
Supervisors: Xavier Serra, Dmitry Bogdanov
Exploration of Music Collections with Audio Embeddings
- 2017–2018 **M.S.**, *Sound and Music Computing, Universitat Pompeu Fabra*, Barcelona, Spain.
Supervisors: Dmitry Bogdanov, Alastair Porter
Exploring Music Similarity with AcousticBrainz
- 2012–2015 **M.S.**, *Electrical Engineering and Computer Science International Graduate Program, National Yang Ming Chiao Tung University*, Hsinchu, Taiwan.
Supervisor: Hsu-Feng Hsiao
Optimization of Video Streaming Using Video Quality Estimation and LMRC Channel Coding
- 2008–2012 **B.S.**, *Computer Science, Multimedia & Network Engineering Program, National Yang Ming Chiao Tung University*, Hsinchu, Taiwan.

Publications (selected)

- 2019 **The MTG-Jamendo Dataset for Automatic Music Tagging.** Bogdanov, D., Won M., Tovstogan P., Porter A., and Serra X. *Machine Learning for Music Discovery Workshop (ML4MD), ICML*, Long Beach, CA, United States
- 2022 **Visualization of Deep Audio Embeddings for Music Exploration and Rediscovery** Tovstogan P., Serra X. and Bogdanov, D. *Sound and Music Computing Conference (SMC)*, Saint-Étienne, France, 2022
- 2021 **MediaEval 2021: Emotion and Theme Recognition in Music using Jamendo.** Tovstogan, P., Bogdanov, D., and Porter, A. *Working Notes Proceedings of the MediaEval 2021 Workshop*, Online

Awards and Honors (selected)

- 2018–2021 Marie Skłodowska-Curie Fellowship (MIP-Frontiers)
- 2018 Best Project for Music Streaming Services from HAMR@ISMIR2018
- 2009–2013 Golden Bamboo Scholarship (average grade > 85/100, 8 semesters)
- 2009–2012 Academic Achievement Award (top 3 students, 4 semesters)

Other relevant experience

- 2020–2022 Reviewer for International Society in Music Information Retrieval (ISMIR) conference
- 2019–2021 Organization of *Emotions and Themes in Music* task within Multimedia Benchmarking Initiative (MediaEval)
- 2021 Papers chair and member of organizing committee for Web Audio Conference (WAC)
- 2023 PC member of Workshop on Human-Centric Music Information Research (HCMIR)

Languages

Ukrainian **Native**
English **Fluent**
Spanish **Advanced**
Mandarin **Intermediate**

TOEFL iBT 113/120 @ 2013
Con conversationally fluent
Professional capability