

# Philip Tovstogan

## Curriculum Vitae

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### Work Experience

- 2022–now **Data Engineer**, *Utopia Music*, Zug, Switzerland.
- Improvement of data pipelines for music analysis with DL models
  - Upgrading and improving the tech stack of microservices
  - Identifying problems and improving stability in K8S cluster
- 2021 **Researcher**, *Jamendo*, Luxembourg, (internship).
- Track-to-track music recommendations based on music embeddings
- 2018–2021 **Predoctoral Researcher**, *Music Technology Group*, Barcelona, Spain.
- 2018 **Software Developer**, *Music Technology Group*, Barcelona, Spain, (internship).
- Freesound.org: bugfixes and new features
- 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 pipeline for firmware building for multiple embedded platforms
  - Establishing startup infrastructure, system administration and support
- 2014–2016 **Software Developer**, *Information and Communications Research Laboratories, Industrial Technology Research Institute*, Hsinchu, Taiwan.
- R&D of various projects based on BeagleBone Black and Intel Edison
- 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 Deep learning, software engineering, music auto-tagging models, recommendation systems, user-centric evaluation, audio signal processing, system design, clean code

Tech Python, TensorFlow, PyTorch (Lightning), Git, Linux, Docker, Flask, FastAPI, PostgreSQL, AWS, GCP, Helm, GitHub Actions, GitLab CI, K8S, JS

### Education

- 2018–2022 **Ph.D.**, *Music Technology Group, Universitat Pompeu Fabra*, Barcelona, Spain.  
Supervisors: Xavier Serra, Dmitry Bogdanov  
Thesis: 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  
Thesis: 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  
Thesis: 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)

- 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
- 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), International Conference on Machine Learning (ICML)*, Long Beach, CA, United States

## 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)
- 2012 Outstanding New Student Scholarship (1 semester)

## Other relevant experience

- 2020–2022 Reviewer for International Society in Music Information Retrieval (ISMIR) conference
- 2019–2021 Member of organizing team 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)

## Languages

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

TOEFL 113 iBT @ 2013  
Con conversationally fluent  
Professional capability