

# PEROUZ TASLAKIAN

AI Research Scientist @ ServiceNow Research

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## EDUCATION

Ph.D. in Computer Science

McGill University

Sep 2004 – Feb 2009 Montréal, QC

Advisors: Luc Devroye and Godfried Toussaint

Thesis: *Musical Rhythms in the Euclidean Plane*

Topic: Discrete & Computational Geometry

M.Sc. in Computer Science

Concordia University

Sep 2002 – Jun 2004 Montréal, QC

Advisors: H. Harutyunyan and T. Fevens

Thesis: *Broadcasting in Multidimensional Tori*

Topic: Message Broadcasting in Networks

B.Sc. in Computer Science

Haigazian University

Sep 1994 – Jun 1998

Beirut, Lebanon

## ACADEMIC EXPERIENCE

Assistant Professor

Program Chair – *BS in Computational Sciences*

American University of Armenia (AUA)

Jan 2012 – Sept 2015

Yerevan, Armenia

**Teaching.** Taught undergraduate and graduate courses in computer science, including *Introduction to Algorithms*, *Theory of Algorithms*, *Discrete Mathematics*, and *Capstone Preparation*.

I designed and taught all the undergraduate courses I delivered, as they were being introduced at the university for the first time. My undergraduate classes typically had around 60 students from diverse academic backgrounds. To address this variation in prior knowledge, I implemented the Mazur method of Peer Instruction in my more challenging introductory courses, such as *Introduction to Computer Science*, to foster active engagement and deeper conceptual understanding.

For all courses, I prepared comprehensive teaching materials, including lecture slides and handwritten notes, to support student learning and graded all exams. Beyond lectures, I provided individual guidance to students through office hours and discussion sessions. I was also actively involved in curriculum development, ensuring that my courses aligned with both academic and industry standards.

**Research.** Supervised research projects and Master's theses in algorithms and computational geometry. My publications appeared in international peer-reviewed scientific journals and conference proceedings including *Computational Geometry: Theory and Application CGTA*, *Journal of Graph Theory*, *Algorithmica*, *Journal of Computational Geometry*, *Non-linearity*, *Lecture Notes in Computer Science*.

**Program Chair.** I chaired the *BS in Computational Sciences* program for over two years, overseeing curriculum development, faculty hiring, and policy decisions through university-wide committees.

**Industry Collaboration.** Led research projects on algorithm optimization in collaboration with Mentor Graphics. The projects included balancing stress distribution in integrated circuits and lossless compression algorithms for large-scale electronic waveforms.

Postdoctoral Researcher

Université Libre de Bruxelles (ULB)

April 2017 – Sept 2015

Brussels, Belgium

**Research.** Conducted research under the supervision of Professor Stefan Langerman on problems in discrete and combinatorial geometry, focusing on routing algorithms in geometric graphs, matching geometric objects, and graph coloring. Additionally, I assisted in teaching a course on data structures and algorithms.

## INDUSTRY EXPERIENCE

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### Research Scientist / Program Lead

#### ServiceNow

📅 Dec 2022 – Ongoing

📍 Montreal, QC

**Research.** I lead the *Multimodal Foundation Models Research Program* within ServiceNow Research, which focuses on research innovation and academic publishing in multimodal deep neural models. The program consists of about five full-time researchers, each leading their own projects, and more than 15 interns throughout the year.

**Intern Supervision.** The primary objective of the group is to advance foundational research and publish in top academic conferences and journals. Many of our projects involve student interns and are conducted in collaboration with their academic supervisors at universities such as McGill and University of Montreal. These projects take place during the students' tenure at the company as visiting researchers or interns, typically lasting from eight months to a few years. As a result, many of these projects have led to publications in academic conferences and have been incorporated into students' theses.

**Publishing and Patents.** My recent publications focus on multimodal document understanding, efficient LLM generation, interpretable document retrieval, causal learning. These publications have appeared in conference proceedings such as [NeurIPS](#), [ICLR](#), [ACL/EMNLP](#), [ICML](#), [CLeaR](#).

In addition to academic publishing, my research has also led to several patents, covering advancements in areas such as knowledge hypergraphs, anomaly detection, causal fault discovery, and automated style transfer in images.

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### Senior Research Scientist

#### Samsung AI Center

📅 Jul 2021 – Nov 2022

📍 Montreal, QC

**Research.** I joined the Samsung AI Center, led by Professor Greg Dudek from McGill University, where I developed machine learning algorithms to tackle challenges in wireless communication networks. These challenges ranged from detecting anomalies in network structures to diagnosing the root causes of network events.

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### AI Research Scientist / Research Lead

#### Element AI / ServiceNow

📅 Jun 2017 – Jul 2021

📍 Montreal, QC

**Research.** Led the *Human Decision Support Research Program* that conducts research in time-series forecasting, causal discovery and graph learning. My publications appeared in high-tier conferences such as [CVPR](#), [JMLR](#), [CLeaR](#), [IROS](#).

**Intern Supervision.** Supervised interns in various research projects and managed a team of research scientists.

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### Quantitative Strategist

#### Morgan Stanley

📅 Feb 2017 – Jun 2017

📍 Montreal, QC

**R&D.** Designed and tuned complex optimization models to maximize profit margins in foreign exchange (FX) transactions.

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### Data Scientist

#### ROI Research On Investment

📅 Sep 2015 – Feb 2017

📍 Montreal, QC

**R&D.** Developed machine learning models for data analysis and prediction in the area of economic development.

## ACADEMIC SERVICE

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### Organizer

New In ML Workshop at ICML (under review)	📅 2025	📍 Vancouver, BC
Bellairs Workshop on Causality	📅 2025, 2024, 2023	📍 Barbados
Armenian LLM Summer School	📅 2025, 2024	📍 Armenia
Workshop on Graphs, Combinatorics, Probability	📅 2022, 2019	📍 Armenia
Workshop on GroundedML at ICLR	📅 2019	📍 Virtual
Yerevan Computational Geometry Workshop	📅 2012	📍 Armenia

### Program Committee Member

European Workshop on Computational Geometry	📅 2009	📍 Belgium
Canadian Conference on Computational Geometry	📅 2008	📍 Montreal, QC
Summer School on Combinatorial Optimization	📅 2006	📍 University of Montreal

### Reviewer

**Standing.** ICCV, ICLR, NeurIPS

**Past.** CGTA, TCS, JIP, ISAAC, LATIN, CCCG, EuroCG, FUN, MTNS

### Mentor

McGill AI Summer Lab	📅 2017	📍 Montreal, QC
WiML Workshop at NeurIPS	📅 2024	📍 Vancouver, BC

## STUDENT & INTERN SUPERVISION

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I supervise graduate students who join the company as interns, each spending about a year working on one or more research projects. In the following, I highlight interns whose research has led to publications and/or was incorporated into their theses.

### Ongoing Intern Supervision

Zichao Li	🎓 McGill University (PhD with Siva Reddy)
Aarash Feizi	🎓 McGill University (PhD with Reihaneh Rabbany)
Tianyu Zhang	🎓 University of Montreal (PhD with Yoshua Bengio)
Suyuchen Wang	🎓 University of Montreal, (PhD with Bang Liu)
Sophie Xhonneux	🎓 University of Montreal (PhD with Gauthier Gidel, Jian Tang)
Christos Tsirigotis	🎓 University of Montreal (PhD with Aaron Courville)
Shubham Gupta	🎓 Université Laval (PhD with Pascal Germain, Cem Shubakan)

### Past Supervision

Rim Assouel	🎓 University of Montreal (PhD with Yoshua Bengio)
Farzaneh Heidari	🎓 Polytechnique Montreal (PhD with Guillaume Rabusseau)
Benoit Corsini	🎓 McGill University (PhD with Louigi Addario-Berry) 🧑‍🔬 Independent researcher
Bahare Fatemi	🎓 University of British Columbia (PhD with David Poole) 🧑‍🔬 Research Scientist at Google Research
Jonathan Pilaut	🎓 Polytechnique Montreal (PhD with Christopher Pal) 🧑‍🔬 Research Scientist at Wand AI
Nare Karapetyan	🎓 American Univ. of Armenia (MSc with P. Taslakian) 🧑‍🔬 Ass. Scientist at Woods Hole Oceanographic Inst.

## TEACHING

Discrete Mathematics	Instructor	2015	AUA
Introduction to Algorithms	Instructor	2015	AUA
Theory of Algorithms (graduate)	Instructor	2015	AUA
Theory of Algorithms (graduate)	Instructor	2014	AUA
Capstone Preparation (graduate)	Instructor	2014	AUA
Introduction to Computer Science	Instructor	2013	AUA
Theory of Algorithms (graduate)	Instructor	2013	AUA
Capstone Preparation (graduate)	Instructor	2013	AUA
Theory of Algorithms (graduate)	Instructor	2012	AUA
Data Structures and Algorithms	Co-instructor	2010	ULB

## INVITED TALKS AND PANELS

Panel discussion on AI	Global Armenian Summit	Sep 2024	Armenia
How Do Machines Learn?	CEGEP Students of EMSB	Nov 2024	Montreal, QC
AI today: side effects and missing traits	X2O Media	Apr 2023	Canada
AI for Climate Change	All-Girl Hack Night	Jun 2019	Montreal, QC
Flips, Pops, and the Four Bars Problem	Tufts University Math Colloquium	Mar 2016	Boston, MA
Women of Computer Science	Women in IT Conference	May 2012	Armenia
Geometric Reconfigurations with Folds & Unfolds	American University of Armenia	Sep 2011	Armenia
The Geometry of Musical Rhythms	University of Antwerp	Mar 2010	Belgium
Geometric Properties of Musical Rhythms	Karel de Grote-hogeschool	Nov 2009	Belgium
Constructing Points on a Circle	Carleton University	Nov 2008	Canada
Geometric Properties of Musical Rhythms	American University of Armenia	Jan 2008	Armenia
Sona Drawings and Gaussian Graphs	Université Libre de Bruxelles	Mar 2007	Belgium

## GRANTS, SCHOLARSHIPS, AWARDS

Best paper award NowAI Conference	2024	Service Now
Postdoctoral research grant Fonds de la Recherche Scientifique (FRS)	2011	Université Libre de Bruxelles
Postdoctoral research grant Fonds Québécois de la Recherche sur la Nature et les Technologies	2008 – 2010	Université Libre de Bruxelles
Doctoral research grant Fonds Québécois de la Recherche sur la Nature et les Technologies	2007	McGill University
Doctoral research grant Fonds Québécois de la Recherche sur la Nature et les Technologies	2007	McGill University
Doctoral research grant McGill Top-up Award	2004 – 2005	McGill University

## SELECTED PUBLICATIONS

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For a full list of publications, please refer to <https://scholar.google.com/citations?hl=en&user=LJ7gHkQAAAAJ>

### Recent Submissions

- [1] R. Awal, M. Massoud, Z. Li, A. Feizi, S. Wang, C. Pal, A. Agrawal, D. Vazquez, S. Reddy, J. A. Rodriguez, **P. Taslakian**, S. Gella, and S. Rajeswar, *WebMMU: A benchmark for multimodal multilingual website understanding and code generation*, Submitted to ICCV, 2025.
- [2] P. Bechard, C. Wang, A. Abaskohi, J. A. Rodriguez, C. Pal, D. Vazquez, S. Gella, S. Rajeswar, and **P. Taslakian**, *StarFlow: Generating structured workflow outputs from sketch images*, Submitted to ICCV, 2025.
- [3] S. Gupta, Z. Li, T. Chen, C. Subakan, S. Reddy, **P. Taslakian**, and V. Zantedeschi, *Retreever: Tree-based coarse-to-fine representations for retrieval*, Submitted to NeurIPS, 2025.
- [4] A. Masry, J. A. Rodriguez, T. Zhang, S. Wang, C. Wang, A. Feizi, A. K. Suresh, A. Puri, X. Jian, P.-A. Noel, S. T. Madhusudhan, M. Pedersoli, B. Liu, N. Chapados, Y. Bengio, E. Hoque, C. Pal, I. H. Laradji, D. Vazquez, **P. Taslakian**, S. Gella, and S. Rajeswar, *AlignVLM: Bridging vision and language latent spaces for multimodal understanding*, Submitted to NeurIPS, 2025.
- [5] J. A. Rodriguez, H. Zhang, A. Puri, A. Feizi, R. Pramanik, P. Wichmann, A. Mondal, M. R. Samsami, R. Awal, **P. Taslakian**, S. Gella, S. Rajeswar, D. Vazquez, C. Pal, and M. Pedersoli, *Rendering-aware reinforcement learning for vector graphics generation*, Submitted to NeurIPS, 2025.

### Conference Proceedings

- [6] O. Clivio, D. Mahajan, **P. Taslakian**, S. Magliacane, I. Mitliagkas, V. Zantedeschi, and A. Drouin, “Learning to defer for causal discovery with imperfect experts,” in *Workshop on Reasoning and Planning for Large Language Models*, 2025.
- [7] A. Masry, A. Puri, M. Hashemi, J. A. Rodriguez, M. Thakkar, K. Mahajan, V. Yadav, S. T. Madhusudhan, A. Piché, D. Bahdanau, C. Pal, D. Vazquez, E. Hoque, **P. Taslakian**, S. Rajeswar, and S. Gella, “BigCharts-R1: Enhanced chart reasoning with visual reinforcement finetuning,” in *Conference on Language Modeling (COLM)*, 2025.
- [8] S. Nayak, X. Jian, K. Q. Lin, J. A. Rodriguez, M. Kalsi, N. Chapados, M. T. Özsu, A. Agrawal, D. Vazquez, C. Pal, **P. Taslakian**, S. Gella, and S. Rajeswar, “UI-Vision: Desktop-centric gui benchmark for visual perception and interaction,” in *International Conference on Machine Learning (ICML)*, 2025.
- [9] J. A. Rodriguez, X. Jian, S. S. Panigrahi, T. Zhang, A. Feizi, A. Puri, A. K. Suresh, F. Savard, A. Masry, S. Nayak, R. Awal, M. Massoud, A. Abaskohi, Z. Li, S. Wang, P.-A. Noel, M. L. Richter, S. VDACCHINO, S. Agarwal, S. Biswas, S. Shanian, Y. Zhang, S. T. Madhusudhan, J. Monteiro, K. D. Dvijotham, T. Scholak, N. Chapados, S. Kharaghani, S. Hughes, M. Özsu, S. Reddy, M. Pedersoli, Y. Bengio, C. Pal, I. H. Laradji, S. Gella, **P. Taslakian**, D. Vazquez, and S. Rajeswar, “BigDocs: An open dataset for training multimodal models on document and code tasks,” in *The Thirteenth International Conference on Learning Representations (ICLR)*, 2025.
- [10] G. Sahu, A. Puri, J. A. Rodriguez, A. Abaskohi, M. Chegini, A. Drouin, **P. Taslakian**, V. Zantedeschi, A. Lacoste, D. Vazquez, N. Chapados, C. Pal, S. Rajeswar, and I. H. Laradji, “InsightBench: Evaluating business analytics agents through multi-step insight generation,” in *The Thirteenth International Conference on Learning Representations (ICLR)*, 2025.
- [11] C. Tsigotakis, V. Adlakha, J. Monteiro, A. Courville, and **P. Taslakian**, “BiXSE: Improving dense retrieval via probabilistic graded relevance distillation,” in *Conference on Language Modeling (COLM)*, 2025.
- [12] T. Zhang, S. Wang, L. Li, G. Zhang, **P. Taslakian**, S. Rajeswar, J. Fu, B. Liu, and Y. Bengio, “VCR: Pixel-level complex reasoning by restoring occluded text,” in *The Thirteenth International Conference on Learning Representations (ICLR)*, 2025.
- [13] J. Monteiro, É. Marcotte, P.-A. Noël, V. Zantedeschi, D. Vázquez, N. Chapados, C. Pal, and **P. Taslakian**, “XC-cache: Cross-attending to cached context for efficient LLM inference,” in *Empirical Methods in Natural Language Processing (EMNLP)*, 2024.

- [14] J. Monteiro, P.-A. Noël, É. Marcotte, S. Rajeswar, V. Zantedeschi, D. Vázquez, N. Chapados, C. Pal, and **P. Taslakian**, “RepliQA: A question-answering dataset for benchmarking llms on unseen reference content,” in *NeurIPS Datasets and Benchmarks Track (NeurIPS Datasets)*, 2024.
- [15] D. Xu, D. Yao, S. Lachapelle, **P. Taslakian**, J. V. Kuglen, F. Locatello, and S. Magliacane, “A sparsity principle for partially observable causal representation learning,” in *Forty-first International Conference on Machine Learning (ICML)*, 2024.
- [16] D. Yao, D. Xu, S. Lachapelle, S. Magliacane, **P. Taslakian**, G. Martius, J. V. Kuglen, and F. Locatello, “Multi-view causal representation learning with partial observability,” in *International Conference on Learning Representations (ICLR)*, 2024.
- [17] I. Laradji, **P. Taslakian**, S. Rajeswar, V. Zantedeschi, A. Lacoste, N. Chapados, D. Vázquez, C. Pal, and A. Drouin, “Capture the flag: Uncovering data insights with large language models,” in *Proceedings of NeurIPS Workshop on Foundation Models for Decision Making*, NeurIPS, 2023.
- [18] R. Assouel, P. Rodriguez, **P. Taslakian**, D. Vazquez, and Y. Bengio, “Object-centric compositional imagination for visual abstract reasoning,” in *ICLR2022 Workshop on the Elements of Reasoning: Objects, Structure and Causality*, 2022.
- [19] P. Brouillard, **P. Taslakian**, A. Lacoste, S. Lachapelle, and D. Alexandre, “Typing assumptions improve identification in causal discovery,” in *Causal Learning and Reasoning (CLEaR)*, 2022.
- [20] B. Fatemi, **P. Taslakian**, D. Vazquez, and D. Poole, “Knowledge hypergraphs: Prediction beyond binary relations,” in *Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence (IJCAI)*, Jul. 2020, pp. 2191–2197.
- [21] G. Cucurull, **P. Taslakian**, and D. Vazquez, “Context-aware visual compatibility prediction,” in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, CVPR-19*, 2019, pp. 12 617–12 626.
- [22] N. Karapetyan, K. Benson, C. McKinney, **P. Taslakian**, and I. Rekleitis, “Efficient multi-robot coverage of a known environment,” in *2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, IEEE, 2017, pp. 1846–1852.
- [23] L. Barba, P. Bose, Jean-Lou De Carufel, M. Damian, R. Fagerberg, A. van Renssen, **P. Taslakian**, and S. Verdon-schot, “Continuous yao graphs,” in *Proceedings of the 25th Canadian Conference on Computational Geometry (CCCG)*, Halifax, NS, Canada, Aug. 2014.
- [24] P. Bose, J.-L. D. Carufel, S. Durocher, and **P. Taslakian**, “Competitive online routing on Delaunay triangulations,” in *Algorithm Theory – 14th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT14)*, ser. Lecture Notes in Computer Science, vol. 8503, Springer International Publishing, 2014, pp. 98–109.
- [25] O. Aichholzer, S. R. Allen, G. Aloupis, L. Barba, P. Bose, J.-L. D. Carufel, J. I. an Stefan Langerman, D. Souvaine, **P. Taslakian**, and M. Yagnatinsky, “Sum of squared edges for MST of a point set in a unit square,” in *Proceedings of the 16th Japan Conference on Discrete and Computational Geometry and Graphs (JCDCG 2013)*, Sep. 2013.
- [26] G. Aloupis, J. Cardinal, S. Collette, E. D. Demaine, M. L. Demaine, M. Dulieu, R. Fabila-Monroy, V. Hart, F. Hurtado, S. Langerman, M. Saumell, C. Seara, and **P. Taslakian**, “Matching points with things,” in *Proceedings of the 9th Latin American Theoretical Informatics (LATIN 2010)*, ser. Lecture Notes in Computer Science (LNCS), volume 6034, Oaxaca, Mexico: Springer-Verlag, Apr. 2010, pp. 456–467.
- [27] I. Hubard and **P. Taslakian**, “Deflating polygons to the limit,” in *Proceedings of the 22nd Canadian Conference on Computational Geometry (CCCG)*, Winnipeg, MB, Canada, Aug. 2010, pp. 67–70.
- [28] F. Gomez-Martin, **P. Taslakian**, and G. T. Toussaint, “Evenness preserving operations on musical rhythms,” in *Proceedings of the Canadian Conference on Computer Science and Software Engineering (C3S2E ’08)*, Montreal, Quebec, Canada: ACM, 2008, pp. 121–123.
- [29] G. Aloupis, B. Ballinger, P. Bose, M. Damian, E. D. Demaine, M. L. Demaine, R. Flatland, F. Hurtado, S. Langerman, J. O’Rourke, **P. Taslakian**, and G. Toussaint, “Vertex pops and popturns,” in *Proceedings of the 19th Canadian Conference on Computational Geometry (CCCG)*, Ottawa, ON, Canada, Aug. 2007, pp. 137–140.
- [30] E. D. Demaine, M. L. Demaine, T. Fevens, A. Mesa, M. Soss, D. L. Souvaine, **P. Taslakian**, and G. Toussaint, “Deflating the Pentagon,” in *Revised Papers from the Kyoto International Conference on Computational Geometry and Graph Theory (KytoCGGT 2007)*, Lecture Notes in Computer Science (LNCS), volume 4535, Kyoto, Japan: Springer-

Verlag, Jun. 2007, pp. 56–57.

- [31] H. A. Harutyunyan and **P. Taslakian**, “Orderly broadcasting in a 2d torus,” in *Proceedings of the 8th International IEEE Conference on Information Visualization (IV 2004)*, London, England, Jul. 2004, pp. 370–375.

## Journal Articles

- [32] B. Fatemi, **P. Taslakian**, D. Vazquez, and D. Poole, “Knowledge hypergraph embedding meets relational algebra,” *Journal of Machine Learning Research*, vol. 24, no. 105, pp. 1–34, 2023.
- [33] A. Mauroy, **P. Taslakian**, S. Langerman, and R. Jungers, “The four bars problem,” *Nonlinearity*, vol. 29, no. 9, pp. 2657–2673, 2016.
- [34] O. Aichholzer, S. W. Bae, L. Barba, P. Bose, M. Korman, A. van Renssen, **P. Taslakian**, and S. Verdonshot, “Theta-3 is connected,” *Computational Geometry*, vol. 47, no. 9, pp. 910–917, 2014.
- [35] L. Barba, P. Bose, M. Damian, R. Fagerberg, W. L. Keng, J. O’Rourke, A. van Renssen, **P. Taslakian**, S. Verdonshot, and G. Xia, “New and improved spanning ratios for Yao graphs,” *Journal of Computational Geometry*, vol. 6, no. 9, 2014.
- [36] D. Bremner, T. M. Chan, E. D. Demaine, J. Erickson, F. Hurtado, J. Iacono, S. Langerman, M. Pătraşcu, and **P. Taslakian**, “Necklaces, convolutions, and  $X + Y$ ,” *Algorithmica*, vol. 69, pp. 294–314, 2 2014.
- [37] G. Aloupis, J. Cardinal, S. Collette, E. D. Demaine, M. L. Demaine, M. Dulieu, R. Fabila-Monroy, V. Hart, F. Hurtado, S. Langerman, M. Saumell, C. Seara, and **P. Taslakian**, “Non-crossing matchings of points with geometric objects,” *Computational Geometry: Theory and Application*, vol. 46, no. 1, pp. 78–92, 2013.
- [38] P. Bose, J. Cardinal, S. Collette, F. Hurtado, M. Korman, S. Langerman, and **P. Taslakian**, “Coloring and guarding arrangements,” *Discrete Mathematics & Theoretical Computer Science*, vol. 15, no. 3, 2013.
- [39] V. Campos, V. Chvátal, L. Devroye, and **P. Taslakian**, “Transversals in trees,” *Journal of Graph Theory*, vol. 73, no. 1, pp. 32–43, 2013.
- [40] G. Aloupis, J. Cardinal, S. Collette, S. Imahori, M. Korman, S. Langerman, O. Schwartz, S. Smorodinsky, and **P. Taslakian**, “Colorful strips,” *Graphs and Combinatorics*, vol. 27, no. 3, pp. 327–339, 2011.
- [41] E. D. Demaine, F. Gomez-Martin, H. Meijer, D. Rappaport, **P. Taslakian**, G. T. Toussaint, T. Winograd, and D. R. Wood, “The distance geometry of music,” *Computational Geometry: Theory and Application*, vol. 42, no. 5, pp. 429–454, Jul. 2009.
- [42] F. Gomez-Martin, **P. Taslakian**, and G. T. Toussaint, “Interlocking and Euclidean rhythms,” *Journal of Mathematics and Music*, vol. 3, no. 1, pp. 15–30, Mar. 2009.
- [43] Gomez-Martin Francisco -, **P. Taslakian**, and G. T. Toussaint, “Structural properties of euclidean rhythms,” *Journal of Mathematics and Music*, vol. 3, no. 1, pp. 1–14, Mar. 2009.
- [44] E. D. Demaine, M. L. Demaine, **P. Taslakian**, and G. T. Toussaint, “Sand drawings and Gaussian graphs,” *Journal of Mathematics and the Arts*, pp. 125–132, Jun. 2007.

## Patents

- [45] **P. Taslakian** and N. S. Asl, “Automatically predicting text in images,” US 12,159,452, 2024.
- [46] **P. Taslakian**, D. V. Bermudez, D. Poole, and B. Fatemi, “Method and system for training model to perform link prediction in knowledge hypergraph,” US 12,205,002, 2024.
- [47] A. Drouin, A. Lacoste, **P. Taslakian**, P. Brouillard, and S. Lachapelle, “Using typed data for causal fault discovery in networks,” US Patent App. 17/466,376, 2023.
- [48] P. Kamousi, J. Park, and **P. Taslakian**, “Automatically applying style characteristics to images,” US Patent App. 17/290,321, 2023.
- [49] **P. Taslakian**, D. Vázquez, P.-A. Noël, and B. S. Corsini, “Anomaly detection using graph neural networks,” US Patent App. 17/373,046, 2023.

[50] **P. Taslakian**, D. Vázquez, and G. C. Preixens, "Systems and methods for assessing item compatibility," US 11,580,363, 2023.