Christopher Tegho

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Research Interests	video language models — few shot learning — generative models — Bayesian modeling — computer vision: video understanding, video generation, object and movement detection
Languages	Fluent in French, English and Arabic (written and spoken)
Programming Languages	Python, Javascript, Java, MATLAB, PL/SQL
Software Packages	TensorFlow, PyTorch, Jax, Prefect, etc.
Other Interests	Running, swimming, cycling, contemporary dancing, cycling trips, graphic novels

Education

2017 MPhil in **Machine Learning**, Speech and Language Technology (73%),
2016 **University of Cambridge**, Cambridge

2010 - 2014 BEng, **Electrical Engineering**, *Distinction*, CGPA: 3.77/4.0, **McGill University**, Montreal

Publications

D'Cruz, A.*, **Tegho, C.***, Greaves, S.*, & Kermode L. (2022). Detecting Tear Gas Canisters With Limited Training Data. *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV).*

Tegho, C., Budzianowski, P., & Gašić, M. (2018). Benchmarking Uncertainty Estimates With Deep Reinforcement Learning for Dialogue Policy Optimisation. *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP).*

Tegho, C., Budzianowski, P., & Gašić, M. (2017). Uncertainty Estimates for Efficient Neural Network-based Dialogue Policy Optimisation. *Accepted at the Bayesian Deep Learning Workshop, 31st Conference on Neural Information Processing Systems (NeurIPS).*

Scholarships and Achievements

Best Student Paper Award (ICASSP 2018) · Graduate Masters Scholarship from the Fonds de Recherche - Nature et Technologie Quebec (16) · James Wright Award (McGill Alumni Association, 16) · McGill Faculty of Engineering Scholarship (13) · McGill Dean's Honour List (13) · Forces Avenir Personnality Finalist (14) · Bourse Avenir of the Ordre des Ingénieurs du Québec Foundation (14)

Research & Technical Experience

Nov 2025 – Present **Machine Learning Engineer Contractor** at gregthe.ai, London
Architected and deployed a scalable multi-tenant Retrieval-Augmented Generation (RAG) system for SaaS post-sales intelligence. Designed ingestion, embedding, indexing and retrieval optimisation pipeline. Transitioned from no retrieval capability to production deployment, enabling automated insight surfacing across growing document repositories and reducing manual overhead.

July 2022 – Nov 2024 **Machine Learning Engineer** at Unitary, London
Designed and deployed a multimodal transformer-based system for policy violation detection across video, image, and text content. Built unified embedding architecture combining frame-level visual models, ASR/OCR/text encoders, and temporal transformers. Improved detection performance across multiple moderation categories and increased confident no-violation predictions, significantly reducing human review workload in production.

Sept 2017 – July 2022 **Senior Machine Learning Engineer** at Calipsa, London
Led end-to-end development of video object and motion detection systems, including full data pipeline design (dataset curation, evaluation framework, deployment metrics). Improved false alarm reduction performance from 65% baseline to **98%** while maintaining **99.9%** recall across varying video qualities and distribution shifts, dramatically reducing operational review burden.

Sept 2019 – July 2022 **Project Mentor / Supervisor** for the Schmidt Data for Science Residency Program, Cambridge
Selected Projects: • Model presence of comorbidity for individuals with mental disorders, using nationwide health registers. • Language and topic modelling for comparing and analysing discourse of scholars in psychology with presence on social media. • Sequence to sequence modeling for product (books) demand forecasting. • Predicting fitness of novel protein sequences for enzymatic plastic degradation.

April 2017 – Oct 2017 **Research Student** at the Cambridge University Engineering Department, Cambridge
Worked for the Dialogue Systems group, under the supervision of Milica Gašić. Examined approaches to extract uncertainty estimates from deep Q-networks (DQN) and implemented deep Bayesian methods for DQN (Bayes-By-Backprop, dropout, concrete dropout, bootstrapped ensemble and alpha-divergences) in PyDial, a Python library for dialogue management. The Bayes-by-Backprop algorithm achieves the best performance among the neural networks approaches, and reaches state of the art performance in policy optimization, namely GPSARSA, without the high computational complexity of Gaussian Processes.

Aug 2016 – Sept 2014 **Cloud Developer and Consultant** at Gurus Solutions, Montreal
Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) software developer and consultant. Delivered solutions for businesses in different sectors: retail, health, manufacturing, service providers, and energy. Example projects: Automated hiring processes (achieved a 40% efficiency increase), revenue recognition and commission payments, lot allocation (achieved an 80% efficiency increase).