Tuğrulcan Elmas



Assistant Professor, School of Informatics, University of Edinburgh

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AI researcher and educator working on large language models and AI-generated media detection. I teach Computational Social Science and Text Technologies in Data Science — around 200 students each per year — at the University of Edinburgh, ranked **22nd in the world for Computer Science & Information Systems** (QS World University Rankings by Subject). I have built AI curricula for university students, summer institutes and a general public audience, and I teach and lecture in both English and Turkish.

ACADEMIC POSITIONS

Assistant Professor, School of Informatics 2024 – present
University of Edinburgh, UK · Co-Director, SMASH group

Fellow, Generative AI Lab 2025 – present
University of Edinburgh, UK · gail.ed.ac.uk

Postdoctoral Scholar, Observatory on Social Media (OSOME) 2022 – 2024
Indiana University Bloomington, USA

EDUCATION

Ph.D., Computer Science 2022
EPFL, Switzerland · *The Role of Compromised Accounts in Social Media Manipulation*

B.S., Computer Engineering (minor in Philosophy) 2017
Bilkent University, Türkiye · exchange semester at the National University of Singapore

TEACHING & AI EDUCATION

University courses

- **Understanding Society with Big Data: Computational Social Science** (2026–) — ~200 students per year. *Nominated for a University of Edinburgh Teaching Award*. Lecture materials published openly at opencourse.inf.ed.ac.uk/css.
- **Text Technologies in Data Science** (2024–) — ~200 students per year. Web search and retrieval-augmented generation. University of Edinburgh, MSc/senior undergraduate.
- **Evidence, Argument and Persuasion in a Digital Age** (2025–2026) — Edinburgh Futures Institute.
- **Introduction to Object Oriented Programming** (2025) — University of Edinburgh.
- **Distributed Information Systems** (2018–2021), **Applied Data Analysis** (2018), **Introduction à la Programmation** (2019) — EPFL.

Curriculum design & training programmes

- **Organiser, SICSS Edinburgh 2025** — Summer Institute in Computational Social Science: an intensive residential programme training early-career researchers in computational and machine learning methods. sicss.io/2025/edinburgh
- **Book chapter on teaching with generative AI** — *An Optimistic Outlook on Teaching, Learning and Assessment for Coding With the Emergence of Generative AI*, with co-authors at Ulster University, Heriot-Watt University and the University of Edinburgh, in Teaching Programming Across Disciplines. Read the chapter

- **Research supervision** — seven current and incoming lab members (postdoctoral, PhD, undergraduate) and four alumni across MSc and undergraduate levels.

Public AI education

- **Dr. Tuğrulcan Elmas**, YouTube — Turkish channel explaining AI, LLMs and social media research to a general audience. youtube.com/@tugrulcan
- Panellist, *Unmasking the Digital Deception: Defending Against DeepFakes and Disinformation Attacks* — Applied Machine Learning Days (AMLD) 2025, EPFL, Lausanne. Panellist, AIM Lab Roundtable Discussion. Invited speaker, Bilkent AI Tech Talks on AI and social media. Invited teaching seminar, Johns Hopkins SAIS; speaker at the Scotsman Data Conference 2024 and the Middle East Conference 2024, Doha.
- National television and radio appearances in Türkiye on AI and information integrity (TRT Radyo, Cüneyt Özdemir, Ali Tarakçı).

SELECTED PUBLICATIONS

Full list: Google Scholar

Large Language Models & Human–AI Interaction

- **How AI Models Manage Epistemic Authority: A Taxonomy and Comparative Analysis of Responses to User Disagreement**. Alnasser, Çetinkaya, Zhao, **Elmas**. EMNLP 2026
- **An Optimistic Outlook on Teaching, Learning and Assessment for Coding With the Emergence of Generative AI**. Watterson, Dabab Nahas, **Elmas**, Shoukry, Evkaya. IN *TEACHING PROGRAMMING ACROSS DISCIPLINES*, BOOK CHAPTER.

AI-Generated Media & Vision-Language Models

- **TRACE-Inset: Unified Whole-Image and Partial-Match Image Retrieval with Vision-Language Embeddings**. Özdemir, Çetinkaya, **Elmas**. PREPRINT
- **Humans Cannot Detect AI-Generated Media But Communities May — For Now: Collaborative AI Detection in r/RealOrAI on Reddit**. **Elmas**. PREPRINT
- **Evaluating Image Forgery Detection and Propaganda in Manipulated Images of the Russian Trolls Campaign**. Mohammed, Çetinkaya, **Elmas**. IEEE INTERNET COMPUTING, 2026

Machine Learning & Social Media

- **Density-aware Walks for Coordinated Campaign Detection**. Gopalakrishnan, Hossain, **Elmas**, Sariyuce. ECML PKDD 2025
- **Large Engagement Networks for Classifying Coordinated Campaigns and Organic Twitter Trends**. Gopalakrishnan, Hossain, **Elmas**, Sariyuce. ICWSM 2025
- **State & Geopolitical Censorship on Twitter (X): Detection & Impact Analysis of Withheld Content**. Çetinkaya, **Elmas**. CIKM 2025
- **Ephemeral Astroturfing Attacks: The Case of Fake Twitter Trends**. **Elmas**, Overdorf, Özkalay, Aberer. IEEE EUROPEAN SYMPOSIUM ON SECURITY AND PRIVACY (EURO S&P) 2021 Covered by *The Atlantic*, *The Next Web*, *ACM TechNews*, *Le Temps*, *Anadolu Agency*.
- **ChatGPT vs Teachers vs Students: Large-Scale Analysis of Generative AI Discourse in Education Communities on Reddit**. Yüce, Dai, Owens, **Elmas**. ICWSM 2027
- **Shorts vs. Regular Videos on YouTube: A Comparative Analysis of User Engagement and Content Creation Trends**. Violot, **Elmas**, Bilogrevic, Humbert. WEBSCI 2024
- **Cross-Partisan Interactions on Social Media**. Çetinkaya, Ghafouri, Such, Suarez Tangil, **Elmas**. ICWSM 2025

- **Misleading Repurposing on Twitter**. **Elmas**, Overdorf, Aberer. ICWSM 2023
- **Characterizing Retweet Bots: The Case of Black Market Accounts**. **Elmas**, Overdorf, Aberer. ICWSM 2022
- **The Impact of Data Persistence Bias on Social Media Studies**. **Elmas**. WEBSCI 2023

SERVICE & LEADERSHIP

- **Advise BBC fact-checkers** on verifying suspected AI-generated images and video, including assessing viral material under deadline.
- **Program Co-Chair, ICWSM 2027** — International AAAI Conference on Web and Social Media. icwsm.org/2027
- **Co-Director**, Social Media Analysis and Support for Humanity (SMASH) group, University of Edinburgh
- **Fellow**, Generative AI Lab, University of Edinburgh
- **Organiser**, SICSS Edinburgh 2025
- **Committee member**, University of Edinburgh — Ethics Committee, Teaching Committee, Board of Studies
- Program Committee: ICWSM, WebSci, CySoc
- Conference reviewer: IEEE Euro S&P, CIKM, ICDE, EDBT, IEEE Big Data, WISE, IEEE CIC
- Journal reviewer: EPJ Data Science, Online Social Networks and Media, PeerJ, Turkish Journal of Electrical Engineering & Computer Sciences

GRANTS & AWARDS

- **Generative AI Lab Seed Funding**, University of Edinburgh — £2,500 for *Can LLMs Give Relationship Advice?*, with Dr Yusuf Mücahit Çetinkaya. Building the first large-scale, theory-grounded dataset of online relationship narratives and AI-generated advice, and benchmarking how well large language models understand and respond to complex relational problems. Announcement
- *Understanding Society with Big Data: Computational Social Science* — nominated for a University of Edinburgh Teaching Award (2025)

LANGUAGES

- **Turkish** — native
- **English** — fluent; medium of instruction at the University of Edinburgh, EPFL and Indiana University
- **French** — intermediate (B1)