MORGAN A. GRAY

EDUCATION

Ph.D.   University of Pittsburgh, Intelligent Systems Program, 2026 (*expected, currently a.b.d*).

Dissertation: THETICAL: The Hybrid Engine for the Inference and Generation of Case-based Argumentation in Law

Coursework: Natural Language Processing, Machine Learning, Artificial Intelligence, Legal Text Analytics, Bayesian Statistics, Applied Statistics, Neural Networks, Human Computer Interaction, Design and Analysis of Algorithms.

Comprehensive Examination: AI & Law, Machine Learning, Natural Language Processing

Awards: 2024-2025 Provost Fellowship, University of Pittsburgh, Intelligent Systems Program

J.D.   Thomas R. Kline School of Law of Duquesne University, 2019

B.A.   Thiel College, Political Science, Criminal Justice Majors, *Summa Cum Laude*, 2016

ACADEMIC APPOINTMENTS

2026 –   *Assistant Professor,* University of St. Thomas, School of Law (Minnesota)
                Courses:
                Coding for Lawyers
                Natural Language Lawyering

2022 – 2025   *Adjunct Professor,* Thomas R. Kline School of Law of Duquesne University
                Courses:
                Coding for Lawyers (co-taught with Wesley M. Oliver since Fall 2022)
                Natural Language Lawyering (taught since Fall 2024)

                Award:
                Center for Teaching Excellence Creative Teaching Award, 2023.

                Fellowship:
                Faculty Scholar, *Carl G. Grefenstette Center for Ethics in Science, Technology, and Law,* 2022-23

                Grant:
                "Using Technology to Enhance Access to Custody Appeals," American Bar
                    Endowment, $25,000, 2022-2023

LEGAL EXPERIENCE

2019 – 2021   Judicial Law Clerk
                Hon. Patricia A. McCullough
                Pennsylvania Commonwealth Court

RESEARCH EXPERIENCE

2021 – present Graduate Student Researcher
                University of Pittsburgh Intelligence Systems Program
                Learning Research and Development Center

PUBLICATIONS

BOOKS AND CHAPTERS

Gray, M., Branting, L. K., Savelka, J., **Machine Learning**, in *Equalizing Justice: Harnessing AI For Litigants Without Lawyers* (Mia Bonardi & L. Karl Branting eds., Cambridge Univ. Press forthcoming 2026).

LAW REVIEW ARTICLES AND ESSAYS

Kaal, W., Gray, M: *The Evolving Role of Artificial Intelligence in Law*, U of St. Thomas (Minnesota) Legal Studies Research Paper No. 25-18

Norton, K., Gray, M., Oliver, W., *The Automated Legal Clinic: Family Division, Appellate Section*, 7 JOURNAL OF LAW AND TECHNOLOGY AT TEXAS 163 (*forthcoming* 2024).

Oliver, W., Gray, M., Savelka, J., Ashley, K., *Computationally Assessing Suspicion,* 92 UNIV. OF CINCINNATI LAW REVIEW 1108 (2024).

SCIENTIFIC JOURNALS AND PUBLISHED CONFERENCE PROCEEDINGS

Morello, Y., Ciabattoni, A., Gray, M., *The Result Model Under Inconsistent Knowledge: Theory and Experiments*, PROCEEDINGS OF THE 38TH INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (DEC. 2025).

Gray, M., Savelka, J., Oliver, W., Ashley, K., *Generating Legal Arguments with Automatically Identified Factor Magnitudes*, PROCEEDINGS OF THE 20TH INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND LAW (JUNE 2025).

Gray, M., Zhang, Li, Ashley, K, *Generating Case-Based Legal Arguments with LLMs*, ACM Symposium on Computer Science and Law (Mar. 2025).

Gray, M., Savelka, J., Oliver, W., Ashley, K., *Using LLMs to Discover Legal Factors*, PROCEEDINGS OF THE 37TH INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (Dec. 2024).

Gray, M., Savelka, J., Oliver, W., Ashley, K, *Empirical Legal Analysis Simplified: Reducing Complexity through Automatic Identification of Legally Relevant Factors,* 382 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A 2270 (Apr. 2024).

Elaraby, M., Xu, H., Gray, M., Ashley, K., Litman, D., *Adding Argumentation into Human Evaluation of Long Document Abstractive Summarization: A Cast Study on Legal Opinions,* Proceedings of the Fourth Workshop on Human Evaluation of NLP Systems (May 2024)

Gray, M., Savelka, J., Oliver, W., Ashley, K., *Can GPT Alleviate the Burden of Annotation?,* PROCEEDINGS OF THE 36TH INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (Dec. 2023).

Gray, M., Savelka, J., Oliver, W., Ashley, K., *Automatic Identification and Empirical Analysis of Legally Relevant Factors,* PROCEEDINGS OF THE 18TH INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND LAW (June 2023).

Savelka, J., Ashley, K., Gray, M., Westermann, H., Xu, H., *Can GPT-4 Support Analysis of Textual Data in Tasks Requiring Highly Specialized Domain Expertise?* PROCEEDINGS OF THE SIXTH WORKSHOP ON AUTOMATED SEMANTIC ANALYSIS OF INFORMATION IN LEGAL TEXT

Savelka, J., Ashley, K., Gray, M., Westermann, H., Xu, H., *Explaining Legal Concepts with Augmented Large Language Models (GPT-4).* PROCEEDINGS OF THE WORKSHOP ON AI FOR LEGISLATION (June 2023)

Gray, M., Savelka, J., Oliver, W., Ashley, K., *Toward Automatically Identifying Legally Relevant Factors,* PROCEEDINGS OF THE 35TH INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (Dec. 2022).

Gray, M., Crivella, A, Oliver, W., *Identifying the Factors of Suspicion,* PROCEEDINGS OF THE 33RD INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (Dec. 2020).

Crivella, A., Oliver, W., Gray, M., *Reducing Subjectivity and Bias in an Officer's Analysis of Suspicion in Drug Interdiction Stops*, PROCEEDINGS OF THE 17TH INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND LAW (June 2019) (with Wesley M. Oliver and Arthur Crivella).

Crivella, A., Oliver, W., Gray, M., *Coding Suspicion*, PROCEEDINGS OF THE 31ST INTERNATIONAL CONFERENCE ON LEGAL KNOWLEDGE AND INFORMATION SYSTEMS (December 2018).

PENDING SCIENTIFIC PUBLICATIONS AND WORKING DRAFTS

Zhang, L., Grabmair, M., Gray, M., Ashley, K., Measuring Faithfulness and Abstention: An Automated Pipeline for Evaluating LLM-Generated 3-ply Case-Based Legal Arguments (2025)

Zhang, L., Grabmair, M., Gray, M., Ashley, K., Thinking Longer, Not Always Smarter: Evaluating LLM Capabilities in Hierarchical Legal Reasoning (2025)

SELECTED ACADEMIC AND PROFESSIONAL PRESENTATIONS

"Generating Legal Arguments with Automatically Identified Factor Magnitudes", The 20th International Conference on Artificial Intelligence and Law, Northwestern University School of Law, Chicago, June 2025

"Python for Lawyers," Teaching Python with Kelly and Sean: Episode 135 (*podcast*), July 2024.

The 36th International conference on Legal Knowledge and Information Systems, Maastricht University, Maastricht, Netherlands, December 2023.

"Automatic Identification and Empirical Analysis of Legally Relevant Factors"?, The 19th International Conference on Artificial Intelligence and Law, University of Minho, Braga, Portugal, June 2023.

"Writing code with law students," Talking Legal Ed, Episode 14 (*podcast*), Linda Jellum, Billie Jo Kaufman, David T. Ritchie, April 2023.

"Technology and Pro Bono Appeals: An Allegheny Co. Pilot Program Aims to Bring Greater Access to Pro Se Custody Appeals." Law in The Family, Episode 22 (*podcast*), Pennsylvania Bar Association, December 1, 2022.

"Can GPT Alleviate the Burden of Annotation?", The 35th International conference on Legal Knowledge and Information Systems, Saarland University, Saarbrücken, Germany, December 2022.

"The Computational Anatomy of a Traffic Stop," Yale Law School, Information Society Project, October 2021.

"Identifying the Factors of Suspicion," The 33rd International conference on Legal Knowledge and Information Systems, Czech Technical University, Prague, December 2020.

"Coding Suspicion," The 31st International conference on Legal Knowledge and Information Systems, Groningen, the Netherlands, December 2018.

PROFESSIONAL SERVICE AND ASSOCIATIONS

PROFESSIONAL SERVICE

<u>Journals</u>: Artificial Intelligence and Law (2023-2025), Stanford Law Review (2024), Journal of Empirical Legal Studies (2024)

: Association for Computational Linguists (2023-2024)

PROGRAM COMMITTEE

International Conference on Legal Knowledge and Information Systems (JURIX), Masaryk University, Brno, Czechia, December 2024

EPIA Artificial Intelligence and Law, Universidade Católica Portuguesa, Viana do Castelo, Portugal, September 2024.

Legal Agents Workshop (LAW'26), Singapore Management University, Singapore, June 2026

BAR ADMISSIONS

Commonwealth of Pennsylvania
United States District Court for the Western District of Pennsylvania

PROFESSIONAL MEMBERSHIPS

Society of Catholic Scientists