

Bruce Hedin, Ph.D.

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Professional Experience

Hedin B Consulting, Carmel, CA (2022 – present): *President*

Supports practitioners, policymakers, and thought leaders with guidance on the effective and responsible use of advanced technologies, with a particular focus on questions related to the evaluation, measurement, and validation of AI-enabled technologies applied in the practice of law. Examples of recent work include the following.

- In the domain of law:
 - **Protocols** (accompanied by supporting commentary and guidance) for the validation of information retrieval processes, especially as applied in the domain of the law
 - **Audits** of the strengths and weaknesses of a party's technology-assisted review (TAR) processes
 - **Affidavits** testifying to my opinions about the soundness of review processes and the evidence and reasoning supporting those opinions
 - **Guidance** in meet-and-confer discussions about the evidence needed to gain trust in a party's use of AI-enabled technologies
 - **Surveys** on the adoption and use of AI by legal practitioners.
- In the domain of education:
 - **Frameworks** for the development of policies covering the use of AI in K-12 schools that are actionable, assessable, and transparently grounded in a school district's core values
 - **Compilations of resources** for the development of AI-related policies in K-12 schools
 - **Model policies** covering key issues implicated by the use of AI in education (Acceptable Use, Academic Integrity, Student Assessment, Privacy and Security)
- On questions of *responsible use of technology*:
 - **Papers and presentations** on conditions for obtaining an informed trust in the outcomes generated by AI-enabled systems.

H5 (now Lighthouse), San Francisco, CA (2003 – 2021): *Principal Scientist*

Contributed scientific, consulting, and thought-leadership expertise in furtherance of H5's objectives. Examples of work done in keeping with this role include the design of **measurement protocols** for validating the results of a retrieval exercise and the provision of **guidance to clients** (both requesting parties and producing parties) about the use of advanced technologies. Also designed and led **evaluations in the NIST-sponsored Text Retrieval Conference (TREC)** that generated key empirical data on which courts relied in approving the application of new technologies to the task of discovery. Prior roles at H5: *Senior Consultant, Requirements Manager, Business Process Analyst*.

YY Software, Mountain View, CA (2000 – 2001): *Linguistic Data Analyst*

Packard Humanities Institute, Los Altos, CA (1987 – 1989): *Data Analyst*

Professional Affiliations

Northeastern University – The Center for Technology Management and Digital Leadership. *Mentor.*

The Sedona Conference. *Member, Working Groups 1 (Electronic Document Retention and Production) and 13 (AI and the Law).*

ACM – SIGIR, SIGAI. *Member.*

Transatlantic Reflection Group. *Contributor to the manifestos Enforcing Law in the Age of “Artificial Intelligence” (October 2022) and In Defense of Democracy and the Rule of Law in the Age of “Artificial Intelligence” (June 2021).*

TREC Legal Track (2008 – 2011). *Coordinator.*

Publications

Bruce Hedin. AI Implementation Toolkit Supplement: Model Policy Development Protocol. *aiEDU* and *OESCA*. 2024.

Bruce Hedin. AI K-12 Toolkit. *aiEDU* and *InnovateOhio*. 2024.

Bruce Hedin. Model Protocol for Electronically Stored Information (ESI) - Text and Commentary. *The Future Society*. 2023.

Bruce Hedin. Model Protocol for Electronically Stored Information (ESI) - Guidelines for Practitioners. *The Future Society*. 2023.

Bruce Hedin and Samuel Curtis. Strengthening the AI Operating Environment: Distributed competence as a means to risk mitigation. *Proceedings of the Third International Workshop on Artificial Intelligence and Intelligent Assistance for Legal Professionals in the Digital Workplace (LegalAIIA 2023)*. 2023.

Jeanna Matthews, **Bruce Hedin**, and Marc Canellas. Trustworthy Evidence for Trustworthy Technology: An Overview of Evidence for Assessing the Trustworthiness of Autonomous and Intelligent Systems. *Law Committee of the IEEE Global Initiative and IEEE-USA AI Policy Committee*. 2022.

Bruce Hedin. Operationalizing Values in AI – The Case of Fairness. *Digital Tech ITP*. Available: <https://digitaltechitp.nz/2021/04/19/operationalizing-values-in-ai-the-case-of-fairness/>. 2021.

Nicolas Economou and **Bruce Hedin**. Legal Systems at a Crossroads: Justice in the Age of Artificial Intelligence. *Handbook of Artificial Intelligence and Robotic Process Automation: Policy and Government Applications* (ed. A. Naqvi & J.M. Munoz). 2020.

Bruce Hedin and Michael Morneault. Beyond Document Review: Meeting Other Big Data Challenges. *New York Law Journal*. February, 2018.

Amanda Jones and **Bruce Hedin**. Keywords Before TAR? What to Ask First. *Legaltech News*. August, 2017.

Stephen Tomlinson and **Bruce Hedin**. Measuring Effectiveness in the TREC Legal Track. *Current Challenges in Patent Information Retrieval* (ed. M. Lupu, K. Mayer, J. Tait, & A.J. Trippe). 2017.

Bruce Hedin, Dan Brassil, and Amanda Jones. On the Place of Measurement in E-Discovery. *Perspectives on Predictive Coding and Other Advanced Search and Review Technologies for the Legal Practitioner* (ed. J. Baron, M. Berman, & R. Losey). 2016.

Julia Brickell and **Bruce Hedin**. Practical Proportionality through Science. *Today's General Counsel*. June, 2016.

- Bruce Hedin**, Dan Brassil, and Christopher Hogan. Toward a Meaningful E-Discovery Standard: On the Place of Measurement in an E-Discovery Standard. *DESI V Workshop, ICAIL*. 2013.
- Maura R. Grossman, Gordon V. Cormack, **Bruce Hedin**, and Douglas W. Oard. Overview of the TREC 2011 Legal Track. *The Twentieth Text Retrieval Conference (TREC 2011)*. 2012.
- Gordon V. Cormack, Maura R. Grossman, **Bruce Hedin**, and Douglas W. Oard. Overview of the TREC 2010 Legal Track. *The Nineteenth Text Retrieval Conference (TREC 2010)*. 2011.
- Douglas W. Oard, Jason R. Baron, **Bruce Hedin**, David D. Lewis, and Stephen Tomlinson. Evaluation of Information Retrieval for E-Discovery. *Journal of Artificial Intelligence and Law*. 2010.
- William Webber, Douglas W. Oard, Falk Scholer, and **Bruce Hedin**. Assessor Error in Stratified Evaluation. *Proceedings of the 19th ACM International Conference on Information and Knowledge Management (CIKM)*. 2010.
- Bruce Hedin**, Stephen Tomlinson, Jason R. Baron, and Douglas W. Oard. Overview of the TREC 2009 Legal Track. *The Eighteenth Text Retrieval Conference (TREC 2009)*. 2010.
- Bruce Hedin** and Douglas W. Oard. Replication and Automation of Expert Judgments: Information Engineering in Legal E-Discovery. *SMC 09: Proceedings of the 2009 IEEE International Conference on Systems, Man and Cybernetics*. 2009.
- Douglas W. Oard, **Bruce Hedin**, Stephen Tomlinson, and Jason R. Baron. Overview of the TREC 2008 Legal Track. *The Seventeenth Text Retrieval Conference (TREC 2008)*. 2009.
- Bruce Hedin**. Searching in All the Wrong Places: The Effectiveness of Search Tools in E-Discovery. *Digital Discovery & e-Evidence*. 2007.
- Ali Farghaly and **Bruce Hedin**. Domain Analysis and Representation. *The Handbook for Language Engineers* (ed. Ali Farghaly). 2003.

Presentations

- Bruce Hedin** (Moderator), Gordon V. Cormack, Eric Dunleavy, and Maura R. Grossman. Measurement, Defensibility, and Compliance: Vetting, Validation, and Monitoring of AI Tools and Uses. *The Sedona Conference Working Group 13 On Artificial Intelligence and the Law*. 2025.
- Bruce Hedin**. Panel on Artificial Intelligence and the Rules of Evidence. *Advisory Committee on Evidence Rules*. 2024.
- Bruce Hedin** (Moderator), Aron Ahmadi, Tara Emory, and Patrick Hall. Assessing the validity, reliability, and bias of Artificial Intelligence. *The Sedona Conference on AI and the Law, Part 1: AI and Civil Litigation*. 4/4/2024.
- James Park (moderator), Sharon Desh, **Bruce Hedin**, Oral Pottinger. AI-Powered Legal Practice: Leveraging Technology in Fact Finding and Discovery. *Legalweek 2024*. 2024.
- Phil Favro (Moderator), David Buchanan, **Bruce Hedin**, Robert D. Keeling, and Hon. Young B. Kim. TAR Validation: Science or Fiction? *RAND E-Discovery Symposium*. October 2023.
- Gordon V. Cormack, Maura R. Grossman, and **Bruce Hedin**. Science, Not Art: Information Retrieval in Search and Review. *ILTACON*. August 2023.
- Bruce Hedin**, Pedro Vale Gonçalves, Jaeger Glucina, and Khaleelur Rahaman. Optimizing Legal Operations with AI: Contracts, Compliance, and Legal Tech. *Vyapi Webinar*. March 2023.

Bruce Hedin. Protocols and Evidence: Operationalizing Principles for the Trustworthy Adoption and Use of AI in the Domain of the Law. *Symposium on AI and Law (SAIL)*. June 2022

Julia Brickell and **Bruce Hedin.** Mind the Gap: Information Governance and Accountability in AI Systems. *MER Conference*. May 2022.

Jeanna Matthews, Marc Canellas, Nathan Adams, and **Bruce Hedin.** The Role of Software Engineering Foundations in Critical Automated Decision-Making Systems. *The International Workshop on Equitable Data & Technology (FairWare)* in conjunction with *The IEEE/ACM International Conference on Software Engineering*. May 2022.

Bruce Hedin. Practicing Law in the Age of Artificial Intelligence. *Idaho Association of Defense Counsel Annual Meeting*. September 2021.

Bruce Hedin. Discussant for: Michelle Zhou, Democratizing AI for Legal Professionals: Creating Cognitive AI Legal Assistants with No Coding. *LegalAIIA*. 2021.

Hon. Paul W. Grimm, Maura R. Grossman, **Bruce Hedin**, & Yannick Meneceur. Artificial Intelligence in Civil and Criminal Discovery: Lessons from Science, Legal Norms, and Real-World Practice. *Athens Roundtable*. 2020.

Bruce Hedin. Validating Search Terms: Objectives, process, competence, data, and validation. *The Fifth Annual Judicial Training Symposium*, sponsored by the Electronic Discovery Institute and the Federal Judicial Center. 2019.

Bill Meyers, Dan Vitelli, **Bruce Hedin**, Shauna Itri, & Drew Lewis. Predictive Coding – A Love Story. *Taxpayers Against Fraud Education Fund Conference*. 2018.

Maura R. Grossman, Hon. Andrew J. Peck, **Bruce Hedin**, & Robert Brownstone. The Nuts and Bolts of Negotiating a Technology-Assisted Review (TAR) Protocol. *The Seventh Annual ASU-Arkfeld eDiscovery and Digital Evidence Conference*. 2018.

George Socha, Maura R. Grossman, **Bruce Hedin**, & Evan Benjamin. What is TAR? *Technology-Assisted Review (TAR) Best Practices Conference - Duke Law Center for Judicial Studies*. 2017.

Gordon V. Cormack, **Bruce Hedin**, David D. Lewis, & Maura R. Grossman. Approaches to Validating TAR Efforts. *The Sedona Conference Institute*. 2014.

Bruce Hedin & Christopher Hogan. Transparent Rule-Based Systems for Technology Assisted Review. *Text Analytics World – San Francisco*. 2013.

Education

Ph.D., Classics, Stanford University, 2000

Dissertation: *The Phonological and Syntactic Conditioning of Elision in Greek*

B.A., History and Classics, Cornell University, 1982

Honors and Awards: Phi Beta Kappa (1981), Lane Cooper Prize (1982)