Olivia Buzek

AI Engineering Leader · Building AI That Works for People

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SUMMARY

AI engineering leader with 15 years of experience refining and opening up siloed AI capabilities. I led work that coalesced 20 years of fragmented NLP development into a single shared library, brought inner source practices to enterprise ML, and turned research-grade responsible AI into something product teams could ship. I can help you create AI applications that save labor, rather than replace human ingenuity.

KEY COMPETENCIES

MLOps & LLMOps | Trustworthy & Responsible AI | Natural Language Processing | Inner Source Transformation | AI Strategy

EXPERIENCE

Senior Staff Engineer - Trustworthy AI Tech Lead *Nov 2021 - Present*

IBM Research - watsonx.ai Platform

- Unified IBM's fragmented Trustworthy AI research (fairness, explainability, robustness) into Watson Trust, a production-ready sklearn-compatible Python library. Previously these existed as separate codebases with incompatible data structures; the unified API made responsible AI practices accessible to product teams who had treated them as too obscure to implement.
- Founded IBM's Inner Source Program Office in 2021 and led the effort to coalesce 20 years of NLP development into the Python and Java-based Watson NLP library, which became the de facto standard for NLP across IBM in the pre-generative AI era. Won Outstanding Technical Achievement Award and IBM Corporate Award.
- Developed inner source practices which became a core component of IBM's technical strategy, included in the 2022 Global Technology Outlook, and a precursor to IBM's current open approach to generative AI.

Senior Engineering Manager *May 2018 - Nov 2021*

IBM Watson

- Managed a team of 10 machine learning engineers across two cross-functional squads: one focused on ML algorithms, one on cloud productionization.
- Oversaw merger of two major NLP SaaS products, growing organization and onboarding remote teams into integrated matrix management.
- Stabilized post-acquisition team with high attrition and low morale over one year by reorienting organization to take advantage of new hires' extensive background in machine learning research.
- Created Algorithms Guild and Innovation Time to give ML insights a home on the product side, leading directly to a shipped beta feature: explainability for Natural Language Classifier.
- Developed inner source process for Watson NLP core language technology, allowing NLP and data science experts across IBM to volunteer contributions to the shared library.

Machine Learning Engineer *Nov 2015 - Apr 2018*

IBM Watson

- Drove language expansion effort, ensuring NLP features reached non-English speaking users. Reduced time to add a new language by 75%. Won ISSIP Excellence in Service Innovation Award.
- Updated algorithms for NLP features including Keywords, Entities and Concepts; developed new Entities algorithm in TensorFlow.
- Built Python microservices for NLP features to replace legacy monolith.
- Gave internal talk "Linguistics for NLP System Builders" to help engineers understand linguistic concepts.

Forward Deployed Engineer *Nov 2012 - Jul 2015*

Palantir

- Led technical outcomes for two large government client engagements.
- Maintained user-facing data analysis stack and built front-end data analytics solutions with Java, Oracle, and open source technologies.
- Improved Java-based data integrations with modern libraries, better error handling, and stability.

Graduate Student Researcher *Jun 2011 - Jun 2013*

Johns Hopkins University

- Designed probabilistic graphical model based on LDA for text analysis and personality trait prediction.
- Built prediction system in Python for user schedules using Twitter data linguistic cues.

Undergraduate Research Assistant *Nov 2009 - Jun 2011*

University of Maryland Institute for Advanced Computer Studies

- Developed algorithm in Ruby to identify difficult-to-translate spans in machine translation context.
- Improved runtime efficiency for exponential algorithm generating alternate sentence phrasings.

EDUCATION

Johns Hopkins University *Sep 2011 - Jun 2013*

Computational Linguistics Baltimore, MD

University of Maryland *Sep 2007 - Jun 2011*

B.S. Computer Science and Linguistics College Park, MD College Park Scholars Program

SKILLS

Languages: Python, Java, C++, Node.js

AI/ML: PyTorch, TensorFlow, scikit-learn, Hugging Face Transformers, LangChain, CrewAI, Docling, Ollama, llama.cpp

Models: Granite, Llama, Claude

Platforms: watsonx.ai, watsonx Orchestrate

Infrastructure: Kubernetes, Docker, AWS

Practices: MLOps, LLMOps, Trustworthy & Responsible AI, Inner Source

AWARDS & RECOGNITION

- IBM Corporate Award, 2022
- IBM Outstanding Technical Achievement Award, 2021
- ISSIP Excellence in Service Innovation Award, 2017

SELECTED PUBLICATIONS & TALKS

Publications:

- The Lifecycle View of Trustworthy AI. *IBM Data Science in Practice (Medium)*, 2021.
- Using targeted paraphrasing and monolingual crowdsourcing to improve translation. *ACM Transactions on Intelligent Systems and Technology (TIST)*, 2012.
- Improving translation via targeted paraphrasing. *Proceedings of the 2010 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2009.
- Error driven paraphrase annotation using mechanical turk. *Proceedings of the NAACL HLT 2010 Workshop on Creating Speech and Language Data with Amazon's Mechanical Turk*, 2009.

Talks:

- Humans In the Loop: Collaborating in the Age of AI. InnerSource Summit 2025, 2025.
- Building Your (Local) LLM Second Brain. Open Source Summit North America, 2025.
- Birth of InnerSource at IBM. InnerSource Summit 2021, 2021.