Olivia Buzek Machine Learning Engineering Leader

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SUMMARY

Experienced leader of machine learning and responsible AI teams, with an extensive background in collaborative development practices. Highlights include bringing inner source to an enterprise organization, launching reusable libraries around NLP and trustworthy AI, and implementing guardrails for LLMs. Committed to fostering collaboration and ethical practices to drive impact for clients and positive societal outcomes.

KEY COMPETENCIES

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

EXPERIENCE

Program Director / Senior Technical Staff Member *Nov 2021 - Present*

IBM Research - watsonx.ai Platform Trustworthy AI

- Led productionization of IBM's state-of-the-art Trustworthy / Responsible AI research into LLMOps and MLOps systems
- Awarded rank of STSM (requiring 15 executive-level references and committee review) to expand practices as core leader of the watsonx.ai Platform and lead its ethical AI strategy
- Won Outstanding Technical Achievement Award and IBM Corporate Award for inner sourcing IBM's first reusable NLP stack, Watson NLP - now the de facto standard for NLP at IBM
- Founded Inner Source Program Office at IBM in 2021, now a core component of IBM's technical strategy and included in the Global Technology Outlook for 2022
- Developed Watson Trust, a production-ready Python-based sklearn-compatible library for Trustworthy AI
- Co-launched internal startup Conveyor.ai for low-code machine learning orchestration

Senior Engineering Manager *Jul 2019 - Nov 2021*

IBM Watson

- Managed a team of 10 machine learning engineers across two cross-functional cloud and ML squads
- Oversaw merger of two major NLP SaaS products, growing organization and onboarding remote teams into integrated matrix management
- Guided team towards architecture decreasing time-to-value on new ML features from 9 months to 3 months
- Improved internal developer experience NPS score by 20 points over one quarter

Engineering Manager *May 2018 - Jun 2019*

IBM Watson

- Managed a team of 6 machine learning engineers
- Stabilized a high attrition and low morale product team, bringing attrition to effectively zero over one year
- Created an Algorithms Guild for skills development and ML problem-solving discussions
- Developed Innovation Time framework leading to beta features for explainability

Machine Learning Engineer *Nov 2015 - Apr 2018*

IBM Watson

- Led language expansion effort, reducing time to new language for all features 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++, Ruby

ML/AI: Ollama, llama.cpp, PyTorch, NLP

Infrastructure: Kubernetes, Docker, AWS

Practices: MLOps, LLMOps, Inner Source, Agile Leadership

AWARDS & RECOGNITION

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