

DUNCAN MCKINNON

Forward Deployed AI Engineer

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PROFESSIONAL SUMMARY

Forward Deployed AI Engineer at Pydantic with experience spanning software engineering, data science, MLOps, and LLM applications. I work with teams to build reliable agentic systems using Pydantic AI and Logfire, applying full-stack observability and continuous improvement patterns to production AI. My prior work includes machine learning infrastructure, reinforcement learning solutions, and recommendation systems driving \$40M+ in revenue.

PROFESSIONAL EXPERIENCE

Pydantic

Forward Deployed AI Engineer | August 2026 - Present

- Develop solutions for clients using the Pydantic AI and Logfire product stack
- Collaborate with engineering teams to apply full-stack observability and continuous improvement patterns to agentic systems
- Develop opinionated guidance through technical blogs and workshops for the developer community using Pydantic tools

Arize AI

Forward Deployed AI Engineer | March 2025 - August 2026

- Develop safe, scalable LLM workflows and agent systems for production use cases in public and private sectors as the first field AI engineer
- Partner with enterprise AI and ML infrastructure teams to solve complex challenges in AI evaluation, MLOps, production workflow automation, observability, and monitoring
- Develop and maintain public Python SDK that accelerates integration of observability and evaluation tools in production environments
- Create frameworks and reusable project templates to increase velocity in customer engagements, collaborating across engineering, product, solutions, and GTM teams

AI Solutions Engineer | November 2023 - March 2025

- Built MLOps observability integrations for real-time and batch workflows on the Instacart Griffin ML platform
- Collaborated with leadership and data science teams across 15+ enterprise and public sector accounts to integrate model inferences and identify actionable, value-driving insights
- Instrumented LLM tracing and monitoring for enterprise clients, providing guidance on GenAI production evaluations, guardrails, prompting, observability, and experimentation workflows

Wayfair

Machine Learning Engineer 2 | March 2022 - November 2023

- Led engineering team in implementing solutions to reduce latency in real-time machine learning systems
- Designed and tested customer recommendation systems driving over \$40M/year in revenue
- Stress tested GCP feature serving platform with various models, gaining buy-in for recommended improvements to online ML systems
- Developed MLflow model deployment and REST service tools that reduced time to productionalize models from days to hours
- Implemented monitoring capabilities to track machine learning performance and data drift using Arize platform

Microsoft (via Neal Analytics)

Data Scientist | July 2020 - March 2022

- Led data science consulting team in developing resource allocation forecast models and pipelines that reduced infrastructure failure response times by 5-7 minutes for major national utility provider
- Delivered end-to-end deep reinforcement learning solution for international mining company, developing orchestration framework to manage simulation, training, assessment, and visualization
- Built web API to generate strategic planning reports using Python, AnyLogic, Azure, Flask, Docker, and Microsoft Project Bonsai
- Led implementation of scalable end-to-end retail demand forecasting solutions for multiple clients using Azure Databricks, Apache Spark, and Prophet

AT&T

Software Engineer 2 | June 2019 - July 2020

- Designed, developed, and deployed personalization services supporting 20+ million unique requests daily across 30+ customer webpages on 3 independent applications
- Led research and presented comparative cloud architecture strategies for migrating on-premise services to AWS and Azure
- Researched and implemented online machine learning system capturing real-time importance rankings to improve content recommendations

Software Engineer 1 | January 2018 - June 2019

- Created microservices for configurable content recommendation system
- Led creation of application monitoring systems to flag malicious traffic, identify service inefficiencies, and present performance results to business leadership

EDUCATION

Master of Science in Applied & Computational Mathematics & Statistics (Data Science) | 2018 - 2020

University of Notre Dame

Bachelor of Science in Computer Engineering | 2014 - 2017

University of Washington Bothell

Minor: Mathematics & Physics

CERTIFICATIONS

Reinforcement Learning Specialization

University of Alberta | 2021

Generative Adversarial Networks Specialization

DeepLearning.AI | 2021

Natural Language Processing Specialization

DeepLearning.AI | 2020

Deep Learning Specialization

DeepLearning.AI | 2018