

## **RUSLAN DAVIDENKO**

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GitHub: <https://github.com/ruslandavidenko>

Portfolio: <https://ruslandavidenko.github.io>

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### **PROFESSIONAL SUMMARY**

Machine Learning Research Engineer with 10+ years of experience designing, evaluating, and deploying scalable Machine Learning (ML) and Artificial Intelligence (AI) systems. Specialized in Graph Neural Networks (GNNs), Large Language Model (LLM) evaluation, Natural Language Processing (NLP), Reinforcement Learning from Human Feedback (RLHF), representation learning, and distributed ML pipelines. Proficient in Python, PyTorch, and TensorFlow with a track record of improving model performance, automating evaluation workflows, and delivering production-grade ML systems across enterprise and research environments.

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### **CORE COMPETENCIES**

Machine Learning, Deep Learning, Graph Neural Networks (GNNs), Large Language Models (LLMs), Natural Language Processing (NLP), RLHF Evaluation, AI Model Evaluation, Model Benchmarking, Representation Learning, Predictive Modeling, Temporal Graphs, Feature Engineering, Hyperparameter Optimization, Distributed ML Systems, Data Pipelines, Annotation Quality Assurance, Model Validation

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### **TECHNICAL SKILLS**

Programming Languages: Python, SQL, Java, JavaScript, C++, R, MATLAB

ML Frameworks: PyTorch, TensorFlow, Scikit-learn, Keras, Hugging Face Transformers

LLM and Evaluation: OpenAI API, LLM Evaluation, RLHF, Bias Testing, Response Scoring, Safety Evaluation

Graph ML Tools: PyTorch Geometric, DGL, Neo4j, NetworkX, GraphFrames

Data and Scientific: Pandas, NumPy, SciPy

DevOps and Tools: Docker, Git, GitHub, Linux, REST APIs, Jupyter Notebook

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### **PROFESSIONAL EXPERIENCE**

#### **Principal AI and Network Science Research Engineer**

Google | Atlanta, GA | January 2023 – Present

- Lead machine learning research focused on Graph Neural Networks (GNNs), temporal graphs, and predictive analytics for large-scale network systems.
- Designed and benchmarked GNN architectures (GraphSAGE, GAT, GCN) for node classification, link prediction, and representation learning, improving baseline accuracy by 15%.
- Built scalable ML pipelines in Python and PyTorch covering preprocessing, feature extraction, training, and inference across multi-million-node graphs.
- Developed reproducible benchmarking frameworks that reduced model evaluation cycle time by 40% across multiple datasets and architectures.
- Conducted Large Language Model (LLM) evaluation workflows measuring response quality, factual correctness, relevance, and alignment using structured scoring rubrics.
- Supported AI safety initiatives through guideline development, annotation quality assurance, and standardization of evaluation protocols.
- Partnered with engineering teams to improve model deployment readiness, reliability, and end-to-end ML lifecycle management.
- Automated evaluation workflows, reducing manual validation effort by an estimated 50%.

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## **Senior Machine Learning Researcher and AI Engineer**

Microsoft | Atlanta, GA | March 2020 – December 2022

- Developed graph-based machine learning solutions and predictive analytics models for enterprise-scale structured datasets.
- Designed end-to-end experimentation workflows including preprocessing, feature engineering, model training, evaluation, and optimization.
- Built LLM and NLP evaluation pipelines to assess factual accuracy, hallucination risk, bias, coherence, and alignment performance.
- Implemented scalable data-processing workflows in Python and SQL supporting model training, validation, and performance reporting.
- Conducted comparative benchmarking across multiple deep learning architectures, reducing inference cost by 25% while maintaining accuracy.
- Delivered technical documentation, evaluation reports, and research summaries for engineering and product stakeholders.
- Improved ML workflow automation through reusable scripts and pipeline components, reducing repetitive analysis time by 30%.

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## **AI Training Specialist and Annotation Research Contributor**

TELUS International | Atlanta, GA | June 2018 – February 2020

- Managed AI training and annotation workflows supporting NLP model development and reinforcement learning evaluation tasks.
- Evaluated AI-generated outputs for accuracy, coherence, contextual relevance, safety compliance, and factual consistency.
- Performed annotation and quality assurance validation across conversational, text, image, and audio datasets.
- Supported RLHF workflows by providing structured scoring, ranking, and quality feedback for model improvement.
- Contributed to annotation standards, dataset validation procedures, and QA frameworks, reducing annotation error rates by 20%.

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## **Machine Learning Research Intern**

IBM | Atlanta, GA | May 2017 – May 2018

- Supported graph-based machine learning research for large-scale network analytics applications.
- Conducted experiments using Python, TensorFlow, and NetworkX to evaluate graph representation learning methods.
- Benchmarked graph embedding approaches for link prediction, node classification, and community detection.
- Built evaluation scripts and reporting tools to track model performance, scalability, and accuracy.
- Produced research documentation and technical reports summarizing findings and experimental outcomes.

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## **Software Engineer and Computational Systems Developer**

Oracle | Atlanta, GA | January 2015 – April 2017

- Developed backend systems and automation tools using Python, Java, JavaScript, C++, and SQL.
- Built data-processing pipelines and analytics tools supporting enterprise software platforms.

- Integrated REST APIs and database systems to support scalable business workflows.
  - Improved application performance through algorithm optimization, debugging, and refactoring.
  - Collaborated with engineering teams to support system reliability, scalability, and production readiness.
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## **Data Analyst and Junior Software Developer**

NCR | Atlanta, GA | August 2011 – December 2014

- Supported enterprise data-processing operations through SQL validation, reporting, and scripting automation.
  - Built analytics tools that improved workflow efficiency and reduced manual reporting workload by 35%.
  - Assisted with software testing, debugging, and database management to improve system stability.
  - Delivered reporting solutions to support operational decision-making and business intelligence.
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## **PROJECTS**

### **Graph Neural Network Benchmarking Framework**

- Built an end-to-end benchmarking framework to evaluate GNN architectures (GCN, GraphSAGE, GAT) across multiple datasets.
- Automated experiment tracking, evaluation metrics reporting, and model comparison dashboards.
- Improved evaluation reproducibility and reduced benchmarking cycle time through reusable pipeline design.  
Tools: Python, PyTorch, PyTorch Geometric, DGL, Pandas, NumPy

### **LLM Evaluation and RLHF Scoring Pipeline**

- Developed evaluation pipeline for Large Language Models (LLMs) focusing on factual accuracy, bias, safety compliance, and alignment scoring.
- Designed structured scoring rubrics and automated response grading workflows for RLHF evaluation.
- Supported dataset validation and annotation quality assurance for consistent labeling.  
Tools: Python, OpenAI API, NLP Evaluation, RLHF Scoring Frameworks

## Scalable Graph Analytics Pipeline

- Built scalable graph preprocessing and feature engineering pipeline supporting multi-million-node datasets.
  - Implemented automated extraction of graph-based features for link prediction and node classification models.
  - Reduced preprocessing runtime and improved model training efficiency.  
Tools: Python, Neo4j, NetworkX, GraphFrames, SQL
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## INDEPENDENT RESEARCH

Graph Machine Learning and Network Science | Self-Directed Research | 2018 – Present

- Conduct independent research on graph representation learning, temporal graphs, and scalable GNN architectures.
  - Develop benchmarking pipelines to evaluate graph ML models across diverse datasets and graph structures.
  - Investigate dynamic network analysis, diffusion modeling, and predictive graph modeling methods.
  - Produce research documentation and experimental findings supporting publication-oriented work.
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## EDUCATION

PhD in Computer Science (Machine Learning and Network Science)  
University of Georgia, Athens, GA | 2014 – 2018

Master of Science in Computer Science (Artificial Intelligence and Data Science)  
Georgia State University, Atlanta, GA | 2011 – 2013

Bachelor of Science in Computer Science  
Kennesaw State University, Kennesaw, GA | 2007 – 2011

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## PUBLICATIONS

Davidenko, R. (2019). Graph Representation Learning for Large-Scale Complex Networks. International Conference on Machine Learning Systems.

Davidenko, R. (2020). Deep Learning Approaches for Dynamic Network Modeling and Link Prediction. Journal of Artificial Intelligence Research.

Davidenko, R. (2021). Machine Learning Frameworks for Network Analysis and Predictive Graph Modeling. International Journal of Data Science and Analytics.

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## **CERTIFICATIONS**

Advanced Machine Learning Specialization, Coursera (2020)

Natural Language Processing Certification, Udemy (2021)

Deep Learning and Neural Networks Certification, Coursera (2019)

Python for Data Science and AI Certification, IBM (2018)

Data Structures and Algorithms Certification, Coursera (2017)

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## **ADDITIONAL INFORMATION**

Work Authorization: Eligible to work in the United States