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Summary

15+ years building ML-driven products and monetization platforms, architecting large-scale distributed systems, building systems that scale with precision, and delivering multimillion-dollar outcomes in ad tech. Known for combining deep technical judgment with strong product intuition to influence org-wide direction and unlock sustained business value.

Core Strengths

- Distributed Systems & ML Infrastructure at Scale
- Machine Learning Solutions & Model Development.
- Real-Time Bidding, Ads Relevance & Ranking
- LLM & LightGBM Optimization for Latency & Efficiency
- Technical Leadership in Ambiguous, Cross-Org Settings
- End-to-End Product Thinking: From Ideation to Deployment

Key Impact Highlights

- **$21M/year** revenue from real-time bidder platform (ML model design, architecture, training infra, system reliability, optimization).
- **+5% revenue lift** via contextual ad recommendation engine (ML model design, targeting optimization).
- +3% revenue from position-aware ranking.
- **55% faster inference**, **80% smaller model** through LightGBMModelOptimizer (open-sourced).
- Improvements in ML-powered classification models that are used across the organization.
- Drove strategy and execution across ambiguous, high-stakes domains.

Technical Contributions & Publications

- ***Optimizing Multiple Online Ads in a Grid Layout: Supercharging Ad Monetization*. [Medium, May 2024](#)**
  Describes an ML-based optimization strategy for a multi-ad grid layout.
- ***[LightGBMModelOptimizer – PyPI](#)***
  Open-source Python package that optimizes LightGBM models for production use. Achieved up to **55% faster inference** and **80% smaller model size** in production pipelines, enabling more efficient ad-serving systems.

Professional Experience

Associate Director of Engineering (70% IC)
[Media.net](#) | *May 2023 – Present*

- Designed and deployed a **position-aware search ranking solution**, improving relevance and increasing ad revenue by ~3%.
  - Open-sourced Inference optimizations- https://pypi.org/project/LightGBMModelOptimizer/
  - Published monetization optimization strategy for multi-ad layouts in [Medium article](#)
- Built a **contextual ad recommendation system** that improved targeting precision and lifted revenue by 5%.
- Spearheaded **LLM-powered ad generation pipelines** and automated fine-tuning frameworks, significantly accelerating ad creation workflows and enhancing creative performance.
- Overhauled the ML-based content categorization system, improving downstream model accuracy and showcasing the system in strategic demos across the organization.
- Drove architectural reviews, defined long-term technical strategy, and influenced roadmap prioritization across engineering, product, and data science teams.

Staff Software Engineer
Google | *March 2022 – May 2023*

- **I worked on improving the search quality of B2B queries, I researched the current flow of search, and started integrating B2B product categories with query rewriting for Google's B2B product.**

Senior Engineering Manager (70% IC)
media.net | *Jan 2014 – March 2022*

- **Led a 20-person engineering team** to design and launch a real-time bidder from scratch, navigating undefined requirements, business challenges, and building high-throughput infrastructure that delivers **$ 21 M+ in annual profit**.
- Trained models on large data to provide accurate predictions.

- Architected training pipelines, scalable inference infrastructure supporting multiple dependent models with a model refresh.
- Developed support for real-time modification of predictions based on real-time data.
- Implemented failover strategies to mitigate downstream failures
- Developed deep smart signals for our models.
- Developed strategies to explore new traffic by minimizing regret.
- Mentored engineers and established a strong technical review culture across backend and ML teams.
- Also responsible for system reliability, infra scalability, performance tuning, and launch reviews

Software Development Engineer
Amazon.com | Nov 2010- Dec 2013

- *Integrated pottermore.com with Kindle, including modifications in the context of the Mobi file for personalization of content.*
- Part of the team that was responsible for the Amazon Instant Video app refresh on Google TV and Sony Bravia TV.

Software Engineer
Directi | June 2010 - Oct 2010

- Designed core infrastructure components and contributed to scalable ad delivery systems.

Education

Masters of Computer Applications
Indian Institute of Technology Roorkee, 2010

Technical Stack

Java, Python, Go, LightGBM, PyTorch, LLMs, Redis, Aerospike, Kafka, MySQL, Kubernetes, GCP