Anjan Goswami

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Objective: *AI, Search, and Data Executive*

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Executive Summary

AI and Engineering Leader with 20+ years of experience building and directing large-scale teams (10–100+ scientists and engineers) to deliver 0-to-1 AI products for enterprise and consumer platforms. Combines deep expertise in generative AI, NLP, computer vision, and advanced search architectures with hands-on leadership to tackle complex technical challenges. Skilled at restructuring teams for optimal collaboration and driving measurable business impact. Experienced in scaling AI-driven systems to foster growth and create long-term competitive advantages.

Key Achievements

- **LLMs for Microsoft PowerPoint (2024–Present):** Led the design and development of fine-tuned, large language and reasoning models for PowerPoint Copilot, increasing user engagement by $2\times$. Built and scaled the AI & Data team, driving brand-consistent presentation creation and boosting user satisfaction.

- **Machine Learning, Deep Learning, and LLMs at Adobe (2019–2023):** Developed semantic parsing for PDF data extraction and a model-distillation framework for robust object detection. Enhanced Adobe Stock recall and diversity via CLIP-based text-image models and a k-sparse autoencoder. Architected an AI-powered audience discovery platform, integrated with Adobe Target, significantly improving audience selection.

- **Machine Learning and Deep Learning at Salesforce (2016–2019):** Launched recommender systems, spam/Q&A detection, chatbots, and dialogue engines for Community and Service Cloud—achieving a 20%+ lift in engagement. Accelerated AI adoption using BERT-based solutions and expanded platform capabilities.

- **Commerce Search in Walmart (2014–2015):** Led 80+ engineers and scientists to build ML-based ranking, query understanding, and recall models from scratch. Boosted revenue by 23% and sales by 17%, delivering new search engines for Grocery, Sam's Club, and ASDA.

- **Recommender Systems for UpWork (2013–2014):** Built an end-to-end contractor recommender system, increasing hiring rates by 4%. Established a product analytics team and experimentation platform; contributed to M&A due diligence.

- **Commerce Search in eBay & Amazon (Earlier Career):** Transitioned eBay to the ML-based Cassini search platform (+6% revenue) and architected image-search pipelines. At Amazon A9, developed ranking infrastructure for global launches across China, Japan, and Germany.

Areas of Expertise

- **AI, ML, Information Retrieval:** Generative AI, LLMs, NLP, computer vision, recommendation systems, advanced search technologies

- **AI Strategy & Execution:** Creating and leading AI roadmaps, delivering scalable products, and transforming cutting-edge tech into impactful solutions

- **AI Systems Architecture:** Designing cost-efficient, high-performance platforms for AI, search, and data with a focus on integration and operational excellence

- **Leadership, Ethics & Innovation:** Building and scaling high-performing AI teams, championing responsible AI (RAI) practices, and managing cross-functional alignment

Professional Experience

Head of AI and Data, Microsoft PowerPoint (March 2024 – Present)

- Developed PowerPoint's ML strategy and roadmap, presented to C-levels, establishing infrastructure for fine-tuning LLMs to handle slide generation, presentation quality, and summarization.

- Architected multi-stage, prompt-based AI solutions for Copilot (e.g., a "narrative builder") to generate presentations from user prompts or optionally a user-provided document. The improved prompt design increased 20% engagement metrics.
- Built and scaled a cross-functional AI team of scientists and engineers; established a data science function for product analytics and user-growth insights. User growth analytics driven UI initiatives improved 20% discovery and usage.
- **Responsible AI & Committee Engagement:** Actively participated in the Responsible AI (RAI) and deployment safety committee to maintain ethical guardrails. Participated in Office Product Applied Science planning and served on the hiring committee to shape AI staffing strategy.

Founder, AI Startup (Sept 2023 – Feb 2024)

- Prototyped a GPT-powered healthcare app for personalized patient education, with a planned nonprofit launch in 2025.

Director of Machine Learning & Engineering, Adobe (July 2019 – May 2023)

- **Executive Leadership for Creative-Focused AI:** Oversaw a 40–60 person cross-functional ML organization delivering AI innovations for Adobe Sign, Acrobat, Stock, Creative Cloud, and the Experience Platform. Specialized in generative AI, computer vision, NLP, recommendation systems, and audio/video content optimization to empower creative professionals at scale.
- **AI-Driven Product Enhancements:** Drove major improvements in form-field detection (Adobe Sign), PDF viewing (Acrobat iOS liquid mode), and multilingual document layouts (Adobe Express) through a fast, improved document-structure detection model. This resulted in a 3x increase in form-detection efficiency, expanded coverage to 15+ languages, and reduced failure rates for liquid mode in Creative Cloud Express.
- **Privacy-Centric Data Initiatives:** Developed privacy-preserving feedback loops for ML systems, collaborating with legal teams on GDPR and CCPA compliance. Led data-stitching frameworks to create 360° customer profiles with secure anonymization.
- **LLM Prototypes & Document AI:** Introduced Q&A, summarization, and highlights for Acrobat using retrieval-augmented generation and prompt engineering. Deployed a privacy-centric AI pipeline on Azure, accelerating internal document intelligence feature development.
- **Unified Search & Ranking:** Built an ML-based ranking framework for Adobe Stock and Creative Cloud's recommendation systems. Created a semantic text-to-image search using multi-modal (CLIP) embeddings and a k-sparse autoencoder for dimensionality reduction, significantly improving recall for images lacking textual descriptions and enhancing search diversity. The efforts improved stock image search relevance and engagement, increased engagement in creative cloud express.
- **Audience Discovery & Operational Excellence:** Launched an advanced audience discovery platform incorporating segmentation, fast nearest-neighbor techniques, and scalable clustering. Cut operational costs by 4× via pipeline simplification and parallelization driven algorithmic improvements. Redesigned the UX based on marketer feedback introducing ranking of audience clusters based on customer query, earning strong praise from pilot customers.

Director of Machine Learning & Engineering, Salesforce (July 2016 – July 2019)

- **Executive AI Leadership:** Directed a 40+ person ML organization spanning the US, EU, and Asia, delivering AI-driven features that enhanced user engagement in Community Cloud and improved enterprise onboarding in Service Cloud. Oversaw model design, data pipelines, deployment strategies, and cross-functional partnerships.
- **AI-Powered Platform Innovations:** Introduced recommendation systems, spam detection, Q&A features, and ML-based feed ranking, achieving a 20% boost in user engagement and driving broader AI adoption.
- **Responsible AI & Privacy:** Collaborated with Salesforce's ethics committees to ensure GDPR and CCPA compliance, leading security reviews for community and service data flows.
- **Advanced NLP & Conversational AI Strategy:** Developed BERT-powered chatbots and dialogue recommendation systems for industries including retail, banking, and hospitality, significantly increasing accuracy and adoption.

Founder & Managing Consultant, SmartInfer LLC (2015 – 2019)

- Advised Etsy on search analytics, machine-learned spell correction, and designing the AI organization across two locations.
- Boosted Neurotrack's Alzheimer's diagnostic accuracy by 20% through improved pupil-tracking algorithms

Director of Search Science, Walmart E-commerce (June 2014 – Oct 2015)

- Led a 16-month AI transformation with 80+ staff, creating an analytics team to address search inefficiencies in demand/supply. Mapped key business problems to ML solutions, driving multi-layer ranking, query understanding, smart promotions, and specialized search for tires/pharmacy. Achieved 23% revenue growth, 17% sales uplift, and launched new search engines for Grocery, Sam's Club, and more. Streamlined recruitment and forged university partnerships, scaling R&D at the Bangalore center.

Director, Data Science and Engineering, Elance/UpWork (June 2013 – June 2014)

- Built a contractor ranking and recommender system from scratch, increasing hiring rates by 4%.
- Created a controlled experimentation platform for data-driven improvements, supporting Elance's transition to UpWork.

Early Career (2005 – 2013): eBay, Amazon A9, Microsoft, Ancestry

- **eBay (2010 – 2013):** Architected ML-based Cassini ranking (+6% revenue), developed image-search pipelines, and introduced product image quality algorithms for fashion.
- **Amazon A9 (2007 – 2010):** Created key ranking and indexing components, expanding global search (China, Japan, Germany).
- **Microsoft (2006 – 2007):** Contributed to indexing, ranking, and crawling in C++, including near-duplicate detection and ML-based crawl-interval frameworks.
- **MyFamily/Ancestry (2005 – 2006):** Implemented search ranking and indexing for historical data, introduced an OCR error correction model to improve name extraction relevance.

Education

- **Ph.D. in Computer Science,** University of California, Davis (2018) – AI, Distributed Systems

- **Executive Education,** University of California, Berkeley (2018) – Negotiation and High Performance Leadership

- **M.S. in Computer Science,** Ohio State University (2005) – Distributed Data Mining

- **M.S. in Computer Science,** University of South Florida (2002) – Computer Vision and Graphics

- **M.Tech in Mechanical Engineering,** IIT Kanpur (1999) – Robot Vision & Planning

- **B.E. in Mechanical Engineering,** West Bengal (1996)

Selected Patents and Publications

- **Patents:**

  - Service Agent Personal Recommender System (US 1020369)
  - Image-based Popularity Prediction (US 20120303615)
  - Query Classification for Improved Search Relevance (US 20120221557)

- **Publications:**

  - Doctoral Thesis: *Machine-Learned Ranking Algorithms for E-commerce Search and Recommendation Applications.*
  - IEEE Big Data (2015): *Controlled Experiments for Decision-making in E-commerce Search*
  - SIGIR ECOM (2018): *Towards Optimization of E-Commerce Search and Discovery.*
  - Master's Thesis (2005): *Efficient Clustering Algorithms for Out of Core, Distributed and Streaming Data*

Selected Awards and Recognitions

- Conference Reviewer (SIGIR, KDD, EMNLP), Speaker/Panelist (AI, ML, E-commerce), UC Davis Graduate Fellowship recipient