Omar Ibrahim

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I build intelligent systems with user-centric design to help people organize, navigate, and act on complex information through search, automation, and AI-driven insights. My work spans technical consulting, solution design, and full-stack implementation, and is always grounded in real-world usability and business alignment.

PROFESSIONAL EXPERIENCE

Mindroots | Remote   June 2024 – Present
Founder & Solution Architect
- Designed and developed a knowledge management and educational research tool, leveraging interactive visualizations, advanced search capabilities, natural language processing (NLP) and Graph Retrieval-Augmented Generation (GRAG) to simplify complex linguistic information for a diverse user base.
- Implemented AI-driven workflows using large language models (LLMs) and graph database technologies (Neo4j) to facilitate user-driven data validation, enrich structured datasets, and deliver personalized, insight-rich search experiences.
- Built scalable, cloud-based infrastructure with React.js, Node.js, Neo4j and AWS to ensure robust ingestion, cross-source data linking, and highly flexible UX components, supporting growth and adaptable use across educational, research, and other knowledge domains.
- Conducted technical demonstrations, user interviews, and co-hosted a podcast series to showcase platform capabilities, explore practical use cases, and foster community engagement by bridging theoretical insights with real-world applications.

MC+A | Chicago, IL   August 2023 – April 2024
Technical Consultant
- Facilitated cross-functional collaboration to implement advanced search and knowledge management solutions for clients, as well as develop internal best practices, tooling, and documentation, significantly reducing deployment time and improving operational efficiency.
- Led the modernization and migration of legacy systems for a major city's police department, transitioning from outdated SQL-based systems to Elasticsearch and Logstash pipelines. Defined technical requirements, managed stakeholder alignment, and ensured smooth migration with zero downtime.
- Developed advanced hybrid search prototypes for B2B clients utilizing retrieval-augmented generation (RAG) and combined sparse and dense vector embeddings. Optimized solutions to align closely with client business objectives, enhancing search accuracy and user experience.
- Directed performance improvements of Elasticsearch clusters by refining index structures and query strategies, utilizing analytics-driven optimizations to enhance search relevance and responsiveness.

MindBreeze LLC | Chicago, IL   March 2022 – May 2023
Senior Technical Consultant
- Managed the integration and ingestion pipeline for a highly customized advanced search and retrieval solution for a major government transportation client, requiring complex ETL for large data volumes from multiple complex SQL databases and file shares. Oversaw indexing across 15+ Lucene-based indexes, ensuring scalable ingestion into a distributed producer-consumer architecture to support future high-availability production environments.
- Designed and delivered customized web-based search applications closely aligned with client-specific use cases, enhancing overall search efficiency and user experience.
- Led Agile discovery and strategic planning sessions, effectively gathering business requirements and aligning stakeholders around clear, actionable implementation strategies.

- Coordinated cross-functional teams, including pre-sales, product management, and development, to streamline release cycles and remove interdepartmental barriers, improving resolution times and operational efficiency.
- Conducted comprehensive client training and provided post-sales technical support, fostering high feature adoption rates and improved customer retention.

CS Energy LLC | Edison, NJ   July 2018 – March 2022
Systems Administrator / Consultant
- Managed IT operations through periods of rapid organizational growth, streamlining onboarding and offboarding processes, reducing licensing costs, and enhancing cross-departmental coordination, particularly between IT and HR.
- Developed and maintained internal dashboards to enable real-time tracking of IT assets, facilitating informed executive oversight of budgeting, resource allocation, and service management.
- Led comprehensive migrations of enterprise-grade project management solutions, coordinating closely with vendors for configuration, deployment, and seamless integration with internal workflows.
- Directed technical discussions and engagements with key stakeholders across multiple departments, ensuring alignment of technical strategies with overall business objectives and security compliance.

Foresters Financial & Rutgers University | NJ   2014 – 2018
User Support Analyst & Senior IT Analyst
- Delivered comprehensive on-site and remote technical support for national internal sales and management teams, significantly improving response times and reducing escalations.
- Managed effective issue routing and coordination, enhancing first-call resolution rates and ensuring adherence to response SLAs.
- Provided targeted technical support and training to faculty, staff, and students, effectively decreasing help-desk ticket volumes and supporting improved retention of student employees.
- Created and implemented practical training materials for hardware and software, increasing self-service adoption and substantially reducing repetitive support requests.

TECHNICAL SKILLS
Core Competencies: Agile methodologies, Algorithms, Batch processing, Cloud computing, Data analytics & engineering, Data modeling, Data pipeline design, Databases, DevOps, ETL processes, Force graphs, Graph databases, Hybrid search solutions, Information retrieval, Knowledge management, Natural Language Processing (NLP), Ontology design, Retrieval-Augmented Generation (RAG), Project management consulting, Public speaking, Query optimization, Research and analysis, Semantic infrastructure, Semantic search, Solutions architecture, Systems administration, Technical writing, Workflow automation & management, UI/UX design, Visualization design.
Software/Frameworks/Languages: AWS, Azure, Cypher, Docker, D3.js, Elasticsearch, Git, Linux/Unix, Neo4j, NLTK, Node.js, OpenAI API, Power Automate, Power BI, PowerShell, Python, Quepid, React.js, REST APIs, SharePoint, SQL, Talend, Microsoft 365.

EDUCATION
Rutgers, The State University of New Jersey, New Brunswick   2017
BA: Linguistics & Cognitive Science