

Dr Arshavir Blackwell

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Senior Artificial Intelligence and Machine Learning scientist and engineer with over two decades of extensive nationwide experience, specializing in automated natural language processing and large language models (LLMs).

A discerning decision-maker with consummate expertise in designing adaptive, language-driven applications and directing research projects exploring human and automated language acquisition, adeptly leveraging these insights for text mining, suggestion, and generation.

A forward-thinking role model who balances demands and maximizes resources to turn visions into reality, crafting deep learning and natural language processing transformers based on relevant data and insights honed through experience.

Currently developing a prototype app that utilizes ChatGPT and other large language models to summarize and analyze extensive document sets. Tailored for researchers, journalists, and content creators, it seamlessly merges artificial intelligence with human expertise, enhancing information handling productivity.

Experience

[Arvoinen Consulting](#)
Los Angeles, CA
Consultant

2020–Present

Large Language Model Prototypes:

- Engineered systems utilizing LLMs to automate the ingestion, organization, and generation of content from web articles on various topics, while integrating LLMs to process crawled content and extract sub-topics and structured information within specific subject areas.
- Designed an intuitive interface that categorizes and color-codes sub-categories, enhancing user experience and navigation, and enabled users to navigate through sub-categories, select articles of interest, and annotate them, providing input to enhance LLM performance.
- Implemented a feedback mechanism where human annotations contribute to refining LLM outputs, resulting in an iterative improvement cycle, leveraging the synergy between LLMs and human expertise to streamline the process of knowledge extraction, organization, and content generation.

[CitizenNet/Condé Nast](#)
Los Angeles, CA
Chief Scientist

2010–2020

Targeting and Market Analysis:

- Spearheaded the development of CitizenNet, the platform that revolutionizes Facebook advertising and targeting through the integration of complex API functionalities with artificial intelligence.
- Utilized a diverse range of machine learning methodologies, including deep learning, self-organizing maps, and ensemble classifiers, to optimize CitizenNet's performance.
- Devised advanced clustering algorithms to pinpoint demographic segments, such as "Midwest fans of One Direction who also like Electric Daisy Carnival," while deploying classification algorithms to assess user receptivity to advertising messages within these segments.
- Enhanced user experience by embedding the Facebook API within a layer of artificial intelligence, providing advertisers with targeting tools for impactful messaging.

Automated Article-writing Pilot:

The described system possesses versatile capabilities that extend beyond its primary function. It has the ability to extract valuable research data from social media networks through text processing, leveraging Large Language Models (LLMs). With human input, it can generate well-informed posts on specific subjects.

Additionally, it provides the potential to integrate targeting data obtained from its social media mining application. In summary, it enhances research data collection speed and enhances the quality and depth of produced articles.

Fox Interactive Media (MySpace) Santa Monica, CA Senior Research Scientist

2008–2010

- *Demographic Prediction Engine:* Analyzed profiles of users with known demographic values, modeled them, and predicted missing values such as age and gender for other users.
- *Buzz Tracking:* Implemented trend and rate analysis algorithms to track changes in the frequency and intensity of targeted buzz words.
- *Intent Miner:* Contributed to the development and testing of a system aimed at extracting intents from unstructured text, such as identifying “intent to purchase a car,” “intent to purchase a cellphone,” “just married,” and “just had a child.”

Early Career

MetaLINCS, San Jose, CA | Principal Computer Scientist

2007

- *Innovation Team:* Championed the development and enhancement of MetaLINCS' flagship e-discovery application.

H5 Technologies, San Francisco, CA | Senior Scientist and Director of Research

2005–2007

- *Legal Analysis with Advanced Search:* Led research and development efforts to improve business processes, particularly in search capabilities, aimed at increasing accuracy, speed, and cost-efficiency in analyzing large document sets for specific legal cases.

Entrieva, Reston, VA | Senior Engineer and Project Lead

2003–2005

- *Document Management Upgrades:* Directed maintenance and upgrades for unstructured document management applications, including categorization software, while spearheading the development of new solutions to expand services and enhance competitiveness.

Adaptive Lava, Oakland, CA | Principal

2001–2003

- *Peer-to-peer Artificial Intelligence:* Integrated peer-to-peer functionality with deep learning and natural language systems within a business context to enable accessibility of files stored on individual computers to multiple users within the organization or knowledge community.

Comprecorp, Nevada City, CA | Principal Scientist

2001

- *E-mail Classifier:* Led the engineering efforts to create a software engine capable of categorizing emails and free-text documents based on user-defined categories using machine learning, with its adaptability extending beyond email classification to various large-scale document management tasks.

Ask Jeeves, Oakland, CA | Senior Engineer

1999–2000

- *Jeeves Automation Project:* Spearheaded efforts to enhance accuracy and reduce costs for the Jeeves question answering system by identifying bottlenecks in knowledge base creation, developing adaptive automation solutions, and overseeing the implementation of code changes by a dedicated team.

Education

PhD, Cognitive Science & Psychology **1995**
University of California
San Diego, La Jolla, CA

A.B., Honors Cognitive Science & Honors Creative Writing **1987**
Brown University
Providence, RI

Research Interests

Specializing in advanced natural language processing (NLP) systems using cutting-edge machine learning algorithms, especially deep learning, to process vast textual datasets from platforms like Facebook, Twitter, and news feeds. Focus on extracting insights such as categorization, semantic information extraction, sentiment analysis, automated targeting, and generating informative document summaries to facilitate decision-making and enhance user experiences.

Publications & Patents

- Blackwell, A., Bates, E., & Fisher, D. (1996). "The time course of grammaticality judgment." *Language and Cognitive Processes*, 11(4), 337-406.
- Blackwell, A. W., & Bates, E. (1995). "Inducing agrammatic profiles in normals: Evidence for the selective vulnerability of morphology under cognitive resource limitation." *Journal of Cognitive Neuroscience*, 7, 228-257.
- Warren, W. H., Blackwell, A. W., Kurtz, K. J., Hatsopoulous, N. G., & others (1991). "On the sufficiency of the velocity field for perception of heading." *Biological Cybernetics*, 65, 311-320.
- Warren, W. H., Mestre, D. R., Blackwell, A. W., & Morris, M. W. (1991). "Perception of circular heading from optical flow." *Journal of Experimental Psychology: Human Perception and Performance*, 17, 28-43.
- Warren, W. H., Blackwell, A. W., & Morris, M. W. (1989). "Age differences in perceiving the direction of self-motion from optical flow." *Journal of Gerontology*, 44, 147-153.
- Benyamin, D., & Blackwell, A. (2013). "Systems and methods for selecting and generating targeting information for specific advertisements based upon affinity information obtained from an online social network." Patent number: US 20130218678 A1.
- Benyamin, D., Hall, M., Chu, A., & Blackwell, A. (2012). "Systems and methods for automatically generating campaigns using advertising targeting information based upon affinity information obtained from an online social network." Patent number: US 20120158518 A1.
- Benyamin, D., Chu, A., Pollock, A., Hall, M., & Blackwell, A. (2012). "Generation of advertising targeting information based upon affinity information obtained from an online social network." Patent number: US 20120158489 A1.
- Sravanapudi, A., Sutler, M., Devand, S., Kalaputapu, R., & Blackwell, A. (2007). "Analyzing content to determine context and serving relevant content based on the context." Patent number: WO 2007076080 A2.

Skills

Advanced Artificial Intelligence (AI) - Machine Learning (ML) - Natural Language Processing (NLP) - Large Language Models (LLMs) - Computational Linguistics - Text & Text Mining - Deep Learning - Adaptive Systems Design - Text Analytics - Neural Networks - HuggingFace - Docker - Transformer Networks - ChatGPT - Research Project Management - Human and Automated Language Acquisition - Transformer Architecture Development - Data Analysis - Software Engineering - Prototyping - Algorithm Development - User Interface Design - Feedback Mechanism Integration - Knowledge Extraction and Organization - Content Generation - Data Annotation - Data Refinement - Machine Learning Model Training and Tuning - Targeting and Market Analysis - Social Media Data Mining - Demographic Prediction - Trend and Rate Analysis - Intent Extraction - Document Management Upgrades - Peer-to-peer Systems Integration - E-mail Classification - Patent Development - Legal Analysis with Advanced Search - System Maintenance and Upgrades