



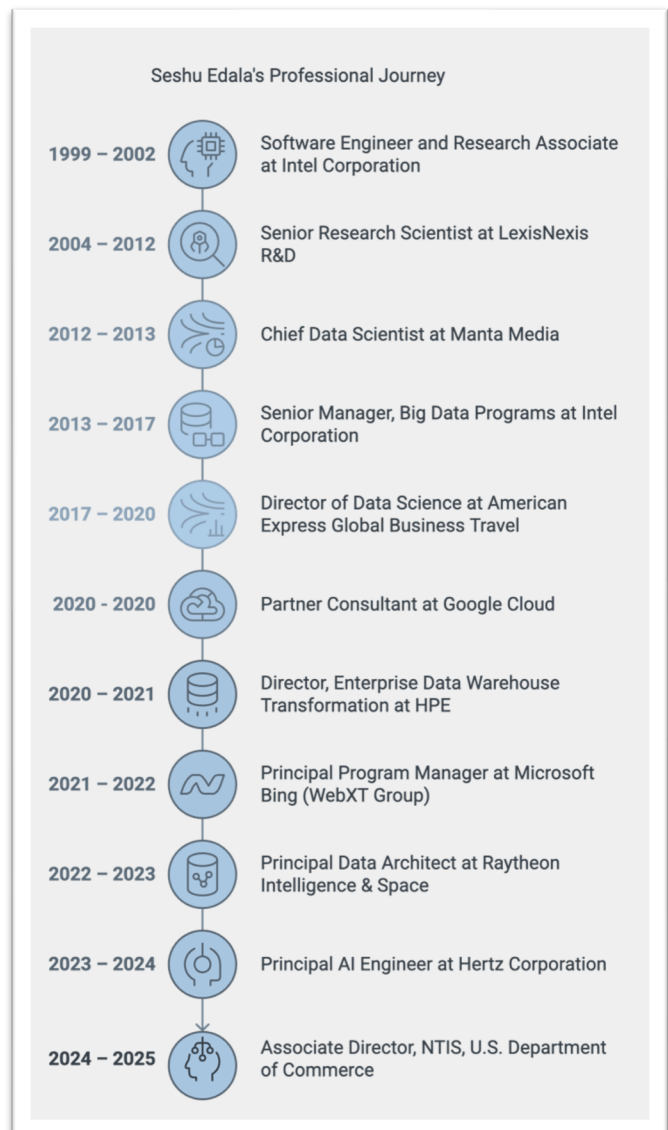
Summative

Innovative, hands-on data science, cloud, and AI leader with over 25 years of experience spanning software engineering, research science, enterprise architecture, and executive management roles. Proven ability to lead end-to-end data modernization, ML/AI product development, cloud transformation, and business intelligence at Fortune 50 companies, startups, and federal agencies. Deep expertise across legal, financial, travel, manufacturing, defense, and public sector domains. Seshu is a true practitioner who deeply engages in both theoretical research and hands-on engineering of high-impact products, businesses, and real-world use cases. He is the creator and founder of multiple AI and data ventures.

Enya Media Works – A generative AI visual-media startup focused on intelligent restoration, enhancement, and personalization of vintage audiovisual content. Enya delivers advanced capabilities in frame-by-frame video upscaling, colorization of black-and-white footage, multilingual dubbing, character and voice injection, and automated restoration of film artifacts and audio clarity.

gnyan.ai – An enterprise-grade AI promptware delivery company that focuses on the development and operationalization of domain-specific mixed-intelligence vibe-coded software solutions tailored for enterprises, research organizations, and federal agencies. gnyan.ai was designed to address the gap in business-aligned, secure, and operationally contextual AI that avoids vendor lock-in and overexposure risk associated with public LLMs.

data-bloom.com – A high-impact machine learning and data science consultancy that delivers advanced analytics solutions for some of the world’s largest enterprises. The firm specializes in developing near real-time analytics engines, building data pipelines, and operationalizing AI/ML at scale within complex business ecosystems. Seshu and his team have built solutions that handle massive datasets, predictive forecasting models, intelligent





alerting systems, and embedded decision optimization tools in sectors ranging from travel, finance, and retail to supply chain and healthcare.

fedworks.ai – A Small Business Administration (SBA) registered technology services entity delivering a suite of integrated solutions focused on the federal collective. Its mission is to serve as a trusted, sovereign digital partner for U.S. federal agencies seeking next-gen capabilities in AI, cloud modernization, RPA, accessibility, apps, and analytics. Under Seshu’s leadership, fedworks.ai has architected secure, compliant, and extensible cloud-native solutions that deliver functionality such as OCR-driven digitization of paper assets, AI-enhanced search across legacy data stores, generative co-pilots for internal federal workflows, and low-code/no-code transformation kits for federal process modernization.

Career Experience

2024 - Present, Associate Director, NTIS, U.S. Department of Commerce

Leading the transformation of NTIS into a federal AI and data consultancy. Designed AI/RPA/Cloud blueprints, created federal GenAI copilots, and established strategic innovation partnerships.

2023 - 2024, Consulting AI Contractor, Mantech (DHS TASPD Program)

Delivered applied AI models for narcotics interdiction and financial crime networks. Deployed secure LLM copilots and a multilingual assistant suite for field agents.

2023 - 2024, Principal AI Engineer, Hertz Corporation

Architected MDM pipelines resolving 5x CRM duplications, built NLQ analytics, and developed semantic data cataloging tools for enterprise-wide governance.

2022 - 2023, Senior Data Architect, Raytheon Intelligence & Space

Directed .gov cloud migration and built advanced lead-time, MRP, and simulation models (PFEP/Digital Twins) for mission-critical defense logistics.

2021 - 2022, Principal Program Manager, Web Indexing, Microsoft Bing

Led Bing’s index scale-up to 1 trillion pages; conducted core R&D on semantic indexing, embedding quantization, and hybrid search retrieval.

2020 - 2021, Director, EDW Modernization, Hewlett Packard Enterprise (HPE)

Rescued a \$16M failed EDW-to-cloud migration, using ANTLR-based automation to shift 3PB+ data to Spark Delta Lake for under \$500K.

2020 - 2020, Partner Consultant (via SpringML), Google Cloud

Delivered ML pipelines and benchmarked Colab vs Databricks for GCP; implemented scalable data engineering using DataFlow and Kubernetes-based stacks.



2017 - 2020, Director of Data Science, American Express Global Business Travel (GBT)

Launched AmexAI@2020 Program: built trip recommender services, Traveler DNA, Gilbert bots, crisis response dashboards, and revenue optimization engines across global travel supply-chain.

2013 - 2017, Senior Manager, Big Data Programs, Intel Corporation

Built the Integrated Analytics Hub; migrated manufacturing data platforms from Exadata to Kafka/HBase; deployed in-situ yield and defect analytics.

2012 – 2013, Chief Data Scientist, Manta Media

Led analytics for fraud detection, SEO optimization, and listing deduplication; added \$5M in revenue through intelligent targeting of SMBs.

2004 - 2012, Senior Research Scientist, LexisNexis R&D

Built scalable search infrastructure (HPCC), real-time alerting, and semantic deduplication systems. Co-led Watson legal ontology collaboration.

1999 – 2002, Software Engineer & Research Associate, Intel Corporation

Contributed to SOAP/UDDI/.NET standards, designed x64 enterprise middleware benchmarks, and delivered StrongARM mobile platform reference designs.

Education

2004 | Ph.D. Candidate, Computer Science – Wright State University, Dayton, OH

Research included scalable information clustering via locality-preserving hashing, semantic classification at web scale, space-filling heuristics for high-dimensional optimization, and user-personalized topic modeling.

1999 | M.S., Human Factors and Systems Engineering – Wright State University, Dayton, OH

Focused on human-computer interaction in complex systems, Java-based discrete event simulations for USAF logistics optimization, and C2 (command and control) strategy modeling for UAV search and rescue domains.

1997 | B.Tech., Mechanical Engineering – JNTU Kakinada, India

University Valedictorian, Graduated with top honors.

Accomplishments

- University Valedictorian in Bachelors
- DAGSI Scholar
- Led 25+ enterprise data, analytics platform builds.



- Built and launched 3 venture-backed AI product companies.
- 12 international patents

Technical Skills Snapshot

Data Engineering & Warehousing

- Enterprise Data Lakes: Spark, Delta Lake, Snowflake, BigQuery, Synapse, Exadata
- ETL Modernization: ANTLR-based translation of Neoview SQL, Informatica, PL/SQL to Spark
- Structured & Semi-Structured Processing: HBase, Kafka, Avro, Parquet, ORC, JSON, XML
- Tools & Pipelines: Data Fusion, DataFlow, PySpark, Kafka Streams

Cloud Platforms & DevOps

- Cloud Expertise: Azure, AWS, GCP (multi-cloud architecture, VPCs, FedRAMP readiness)
- DevOps & IaC: Kubernetes, Terraform, ArgoCD, Docker, Istio, GitOps, CI/CD pipelines
- Hybrid Cloud Migration: Delta Lakehouse modernization, real-time observability, rollback SOPs

Machine Learning & AI

- ML/DL Modeling: Recommenders (GBT), Search Quantization (Bing), LTV, Anomaly Detection
- Generative AI & NLP: RAG pipelines, embeddings, semantic fieldmaps, GPT copilots
- MLOps Tooling: MLflow, Vertex AI, SageMaker, Kubeflow, model drift & retraining

Business Intelligence & Analytics

- BI Platforms: Tableau, Power BI, Looker, Custom web dashboards
- Decision Intelligence: Executive-ready analytics QA, what-if scenarios, metric storytelling
- Cataloging & Metadata: Semantic annotation, lineage tracking, data governance agents

Search & Indexing Systems

- Large-Scale Search: Bing Index, Lexis HPCC, ElasticSearch, Semantic Inference Engines
- AI Search Enrichment: UIMA, OWL, knowledge graph enhancement, deduplication logic
- Retrieval Techniques: Vector quantization, hybrid index (semantic + inverted), result distillation

Mobile, Web, Omnichannel Interfaces

- Frameworks: Flutter, WebAssembly, Android
- Interfaces: Booking chatbots, multilingual agents, responsive analytics dashboards



- Accessibility & UX: Section 508 compliance, voice search, cross-device UI experiences

Security, Governance & Compliance

- Access & Anomaly Detection: Exfiltration tracking, fine-grained access control
- Regulatory Compliance: FedRAMP, HIPAA, GDPR, ITAR
- Data Loss Prevention: Lineage, policy enforcement, secure semantic systems

Programming Languages & Tools

- Languages: Python, PySpark, Scala, Java, SQL, C#, R
- Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn, XGBoost, Flink, Node.js, D3.js
- Storage & Processing: HDFS, Hive, HBase, Kafka, MongoDB, Redis, ElasticSearch, Delta Lake

Product Innovation & Leadership

- gnyan.ai – Secure enterprise promptware orchestration
- data-bloom.com – Real-time ML & analytics consultancy for Fortune 100s
- fedworks.ai – Federal SBA-certified AI, apps, cloud, and RPA delivery
- Enya Media Works – Generative AI for media upscaling, dubbing, and synthesis