# PROFESSIONAL SUMMARY

I lead Avanade's Generative AI initiatives on the Databricks platform—driving innovation, scalability, and real-world impact for enterprise clients. With over 30 years of experience in advanced analytics, cloud platforms, and software engineering, I bring deep technical expertise and strategic vision to every engagement.  
  
My background spans Big Data Analytics, Azure, .NET, and Python, and I hold a Doctor of Computer Science in Big Data Analytics from Colorado Technical University, where I focused on Complex Event Processing and rule-based systems. I’m also a published author with O’Reilly and BPB, committed to translating complex technologies into practical, actionable insights.  
  
As a Certified Databricks Instructor, I teach courses in Generative AI, Data Engineering, and Data Analysis—sharing knowledge and empowering professionals to build with confidence on the Databricks platform. In addition, I teach a master’s-level course focused on Artificial Intelligence and Human-Computer Interaction, helping shape the next generation of AI practitioners and researchers. My mission is to bridge the gap between cutting-edge research and enterprise application—empowering organizations to make smarter, faster, and more responsible decisions through data and AI.

This resume contains both professional and educational experience.

# PROFESSIONAL EXPERIENCE

**Avanade** **January 2024 – Present**

***Director - Advanced Analytics and Databricks Champion***

Support customers in their journey to the cloud and the application of AI to improve business outcomes.

Experiences include:

* Responsible for assisting in the establishment of large programs with clients.
* Support Databricks-related proposals and challenges
* Support the Databricks community
* Develop and maintain assets to increase velocity, reduce defects, and bring standardization
* Publish whitepapers and speak at conferences, including Databricks’ Data and AI Summit

**Lexmark**  **Nov 2021 – Dec 2024**

***Optra Data Product Owner and Technical Architect***

Product owner of the Optra Data Platform, a next-generation metadata-driven big data ingestion and refinement system. Responsible for the platform's scope, vision, architecture, design, construction, and evangelism.

Technologies include c#, Avalonia/Maui, Entity Framework 6/7, Asp.net core, Azure Databases, Azure Data Factory, Key Vault, Azure Databricks, Python, Spark, Azure Purview, and other supporting technologies.

Experiences include:

* Enabled and supported customer adoption of Optra Data
* Supported Lexmark IT's internal adoption of Optra Data
* Served as a Databricks subject matter expert

**Avanade**  **Feb 2019 – Nov 2021**

***Data & AI Architect – Analytics and Advanced Analytics***

Support customers in their journey to the cloud and the application of AI to improve business outcomes.

Experiences include:

* Enabling a global manufacturing organization to determine the next steps to allow PLC programs to reach the desired state using XML, AI Techniques, PLC, code generation, Graph Databases (NoSQL), C#, web services, and various Azure services.
* Assisted an international telecommunications organization in modernizing its data warehouse platform using Azure Data Factory, Databricks, and Azure Data Lake Store Gen2.
* Assisted a company specializing in the design, manufacture, marketing, and service of semiconductor processing equipment used to fabricate integrated circuits by providing cloud architectural guidance in constructing a data platform. Technologies used included Azure IoT Central, DevOps, Application Insights, and a custom C# system service serving as a software device. Assisted in the design and creation of a self-service analytics environment utilizing Databricks/Spark, Python/R/Java/Scala, SQL/SparkSQL, Azure Data Factory (ETL/ELT/Transformations), Hadoop (HBase/Hive/Solr), and other NoSQL and relational data sources.
* Served as an architect for an organization adopting automatic speech recognition using open-source software hosted on Azure. Technologies utilized include Python, TensorFlow, Deep Learning, Transfer Learning, Azure architecture, and application architecture.

**Talend**  **Sep 2018 – Feb 2019**

***Customer Success Architect***

* Supported customers by providing architectural guidance, design best practices, and advice.
* Wrote articles, blog posts, and knowledgebase entries to support customers and drive adoption.
* Served as a primary technical connection with large travel, computer manufacturing, and insurance organizations.
* Technologies utilized: Azure, Docker, Spark (Scala/Python/R/SQL/Java), Databricks, Hadoop (HDFS/Hive/HBase/etc.), and Talend (ELT/ETL/Data Transformation) products.

**Avanade**  **Nov 2007 – Sep 2018**

***Analytics Architect (Midwest US Region)***  ***Sep 2017 – Sep 2018***

* Assist in sales and delivery of analytics projects.
* Developed proof of concept related to Azure Search for a large manufacturing organization using .NET, Cosmos DB, and Azure Data Factory.
* Developed proof of concept converting PLC programs to C# for automated diagnostics support surfaced via a chatbot as part of a broader Artificial Intelligence initiative. Developed an augmented Azure Search proof of concept utilizing key phrase extraction to identify relevant portions of documents for automated answering of questions.
* Led the foundation efforts of a manufacturing organization's adoption of an Azure-based data platform supporting analytics, data science, reporting, and ad hoc data exploration using Databricks.
* Assisted troubled projects as needed.

***Analytics Architect, Data & Analytics (Global)***  ***Jul 2014 – Aug 2017***

Responsible for developing proof of concept and/or reference solutions for:

* Azure
* Documented and refined internal business process
* Shaping Point of View on Artificial Intelligence
* Stream Analytics - Complex Event Processing (CEP)
* Big Data Analytics
* Artificial Intelligence (Machine Learning supervised/unsupervised, predictive analytics, anomaly detection, natural language processing, pattern recognition/detection, regression)
* Internet of Things (IoT)
* Hadoop/HDInsight/Spark/Hive/Pig/HBase
* Sitecore
* CRM
* Other analytics (R/SAS/SPSS/Java/Python/C++/Java/NoSQL/OLAP/Data Mining)
* Data (Azure SQL Databases, Microsoft SQL Server, NoSQL -Graph/Document/etc., relational/non-relational)

***Group Manager, CRM Architect, AOS***  ***Oct 2010 – Jul 2014***

* Design, deploy, and test products with large size and complexity.
* Develop and test mission-critical Software-as-a-Service (Saas) products as well as manage 3rd level support team.
* Responsible for performance testing for a large chemical company.
* On-boarded an international insurance company with multiple integration points.
* Served as a technical resource for troubleshooting or optimizing solutions.

***Group Manager – CRM***  ***Nov 2007 – Oct 2010***

* Served as a technical leader in the Microsoft Dynamics CRM service line.
* Led the CRM development of a successful management project that integrated Dynamics CRM, Upside, SharePoint, and Great Plans.
* Led the development of a project for a major healthcare services company to implement a custom system service to synchronize external data with a Microsoft Dynamics CRM implementation.

**MyFamily.com**   **Dec 2005 – Nov 2007**

***Software Architect***

* Played a critical role in the early stages of development and design of MyFamily 2.0, including interviewing and recruitment, product definition, prototyping, design, and implementation
* Designed and implemented a continuous integration build and deployment system utilizing CCNET, MSBUILD, SVN, CodeSmith, and custom-written console applications
* Designed and developed the MyFamily 2.0 Business Layer and Data Access Layer utilizing .NET 2.0 and CodeSmith

**Group Publisher**  **Jun 2005 – Dec 2005**

***Chief Architect & VP of Information Technology***

* Designed and developed multiple prototypes and proof-of-concepts to facilitate requirements clarification and technical feasibility
* Developed intelligent auto-layout publishing demo to facilitate the sale of the company using ASP.NET 2.0, SQL Server 2005, Visual Studio 2005, and Flash MX 2004
* Recruited and managed one developer to assist in the development efforts
* Facilitated acquisition via due diligence discussions, documentation, and presentations

**WeAttract.com**  **Mar 2004 – Jun 2005**

***Chief Architect & VP of Information Technology***

* Responsible for all information technology, systems, and development
* Designed and led the development of a Flash-based instructional engine, a template-based server-side processing engine, and a Microsoft Office-based system that allowed business analysts to create logic and content for a production system
* Developed prototypes and presentations to secure additional clients and partners
* Led the development and assisted in the integration of Yahoo Personals' Personality Test, report, and profile
* Led the development and assisted in the integration of Yahoo Personals' Relationship Test, report, and profile
* Extensive data manipulation and analysis
* Technologies used: Microsoft Office System, .NET, C#, XML, ActionScript, Flash, Office Automation, parsers, and Visio.

**Match.com**  **Jan 2002 – Mar 2004**

***Architect***

* Led a staff of senior developers to implement the first of Match's .NET projects to be rolled out in production, Attraction.Match.com, an online Flash-driven personality and physical attraction test.
* Responsible at various times for design, development, team selection, relationship management, project management, and product management.
* Designed, developed proof of concepts, measured key performance metrics, and wrote code generation utilities for the .NET version of Match.com's dating site
* Implemented a keyword searching website content validation system using Microsoft .NET
* Assisted in formulation of coding standards
* Researched and developed prototypes using Flash MX, Flash MX Communication Server
* Assisted, developed, and extended the Flash and Java clients for Match Instant Messaging
* Optimized the Match Instant Messaging product

**Immedient**  **Jan 2000 – Dec 2001**

***Technical Architect***

Client: KPMG LLP

* Served as Technical Architect on KPMG's Global Performance Management Project.
* Developed discovery documentation, design documentation, proof of concepts, and operations documentation.
* Engaged in and supported development efforts.
* Led design and development of the effort to add Unicode support to the application.
* Assisted support staff during deployment to over 65,000 users
* Technologies utilized: HTML Application (HTA), VBScript, ASP, SQL Server, Microsoft IIS, Exchange 5.5, CDO, XML, XSLT, Rational Rose, Unicode, and Visual Basic
* Managed a team of 5 developers
* Developed and presented .NET training presentations

**EasyNetLearning**  **1999 – 2000**

***Director of Technology***

* Managed and engaged in the development of EasyType.com an Internet instructional web application using Java, JavaScript, CSS, DHTML, Macromedia's Flash 3 & 4, BrowserHawk, Microsoft Transaction Server, Microsoft SQL Server 7.0, and XML
* Designed and developed demos to secure venture capital
* Implemented Microsoft DNA
* Coordinated efforts with the Testing, Creative, and Customer Support teams to successfully launched the product
* Designed and developed multimedia prototypes using Microsoft Speech API, Swift Generator, Microsoft MCI control, SQL Server, and IIS

**MicroStrategy**   **1998 – 1999**

***Sr. Software Design Engineer***

* Extensive Data Warehousing and OLAP training
* Responsible for research into next-generation web technology using HTML, DHTML, JavaScript, CSS, XML, and XSL.
* Developed multiple prototypes utilizing new technologies such as XML, XSL, and CSS.
* Developed guidelines and standards for XML documents.

**RDA Consultants**  **1997 – 1998**

***Consultant***

Client: NASDAQ.com

* Responsible for proof-of-concept deliverables aimed at increasing reliability and performance. A chaining engine was developed to allow a VBScript to define a series of events with optional dependencies, and execute events in a predefined order with an emphasis on error logging and recovery.
* Responsible for conception, design, and development of dynamic content generation system based on a multithreaded event-based engine that utilized plug-in components.
* Responsible for high-performance website redesign and implementation using IIS 4.0, ASP, and ISAPI filters.
* Assisted in NASDAQ-UK.com web site construction.

Client: AMF

* Responsible for design and development of multiple Windows NT system services using ATL and COM for use in time-critical applications.
* Responsible for the development of multiple business objects using ATL and COM.
* Developed and refined ActiveX controls for use in Microsoft Access Reports

**TASC**  **1996 – 1997**

***Member of Technical Staff***

* Developed the client portion of a government-funded project which incorporated an Information Retrieval and Text Extraction System using Visual C++, MFC, ESRI's MapObjects, TASC's TextAgent Technology, and Clarit C++ API's.
* Designed and developed the Windows NT/95 version of TASC's Information Refinery TextAgent
* Configuration Tool using Visual C++, MFC, Internet Explorer Plug-In, Gnu's RegEx Library.
* Developed Windows NT/95 programs using Visual C++ for text extraction and data translation utilizing multiple object-oriented libraries. These programs accepted messages as input and produced geospatial output suitable for import into GIS systems.
* Developed Web-based prototypes using HTML.

**American Management Systems**  **1995 – 1996**

***Programmer***

* Developed and maintained multiple client-server applications written in C, C++, Oracle, and FileNet's Workflo in medical information management.
* Designed and developed a Windows NT-based client-server program that de-normalized data in a Microsoft SQL database for importation into a Mainframe-based system using Visual C++, MFC, and ODBC.

# PUBLICATIONS

* Generative and Agentic Solution Development on Databricks – O'Reilly – Anticipated Early 2026
* Databricks Lakehouse Cookbook – BPB Publications · Anticipated End of 2023
* A Comparative Study on Common Errors in Rules Governing Complex Event Processing Systems  
  Proceedings of the Conference on Information Systems Applied Research ISSN · Dec 1, 2019
* Exploring Complex Event Processing Rule Error Categorizations to Improve Rule Development   
  ProQuest · Dec 1, 2018
* .NET Multithreading Manning · Jan 1, 2002
* Numerous whitepapers and blog posts

# PROFESSIONAL HIGHER EDUCATION EXPERIENCE

**Speedboat Professional Services**   **Aug 2023 – Present**

***Certified Databricks Trainer***

Taught Databricks Academy courses including:

* Data Engineering with Databricks

Data professionals from all disciplines will benefit from this comprehensive introduction to the components of the Databricks Lakehouse Platform that directly support putting ETL pipelines into production. You’ll leverage SQL and Python to define and schedule pipelines that incrementally process new data from a variety of data sources to power analytic applications and dashboards in the lakehouse. This course offers hands-on instruction in Databricks Data Science and Engineering Workspace, Databricks SQL, Delta Live Tables, Databricks Repos, Databricks Task Orchestration and Unity Catalog.

* Advanced Data Engineering with Databricks

In this course, students will build upon their existing knowledge of Apache Spark, Structured Streaming, and Delta Lake to unlock the full potential of the data lakehouse by utilizing the suite of tools provided by Databricks. This course places a heavy emphasis on designs favoring incremental data processing, enabling systems optimized to continuously ingest and analyze ever-growing data. By designing workloads that leverage built-in platform optimizations, data engineers can reduce the burden of code maintenance and on-call emergencies, and quickly adapt production code to new demands with minimal refactoring or downtime.

* Machine Learning with Databricks

This course is your gateway to mastering machine learning workflows on Databricks. Dive into data preparation, model development, deployment, and operations, guided by expert instructors. Learn essential skills for data exploration, model training, and deployment strategies tailored for Databricks. By the course end, you'll have the knowledge and confidence to navigate the entire machine learning lifecycle on the Databricks platform, empowering you to build and deploy robust machine learning solutions efficiently.

* Machine Learning Model Operations

This course will guide participants through a comprehensive exploration of machine learning model operations, focusing on MLOps and model lifecycle management. The initial segment covers essential MLOps components and best practices, providing participants with a strong foundation for effectively operationalizing machine learning models. In the latter part of the course, we will delve into the basics of the model lifecycle, demonstrating how to navigate it seamlessly using the Model Registry in conjunction with the Unity Catalog for efficient model management. By the course's conclusion, participants will have gained practical insights and a well-rounded understanding of MLOps principles, equipped with the skills needed to navigate the intricate landscape of machine learning model operations.

* Databricks Performance Optimization

In this course, you’ll learn how to optimize workloads and physical layout with Spark and Delta Lake and and analyze the Spark UI to assess performance and debug applications. We’ll cover topics like streaming, liquid clustering, data skipping, caching, photons, and more.

* Databricks Streaming and Delta Live Tables

The Databricks Streaming and Delta Live Tables (SDLT) course is designed to prepare students for the Databricks Certified Professional Data Engineer certification exam. The content for this course consists of the Professional-level modules of the Data Engineer Learning Path.

* Get Started with Data Engineering on Databricks

In this course, you will learn basic skills that will allow you to use the Databricks Data Intelligence Platform to perform a simple data engineering workflow and support data warehousing endeavors. You will be given a tour of the workspace and be shown how to work with objects in Databricks such as catalogs, schemas, volumes, tables, compute clusters, and notebooks. You will then follow a basic data engineering workflow to perform tasks such as creating and working with tables, ingesting data into Delta Lake, transforming data through the medallion architecture, and using Databricks Workflows to orchestrate data engineering tasks. You’ll also learn how Databricks supports data warehousing needs through the use of Databricks SQL, Delta Live Tables, and Unity Catalog. With the purchase of a Databricks Labs subscription, the course also closes out with a comprehensive lab exercise to practice what you’ve learned in a live Databricks Workspace environment.

* Generative AI Engineering with Databricks

This course is aimed at data scientists, machine learning engineers, and other data practitioners who want to build generative AI applications using the latest and most popular frameworks and Databricks capabilities.

* Generative AI Solution Development

This is your introduction to contextual generative AI solutions using the retrieval-augmented generation (RAG) method. First, you’ll be introduced to RAG architecture and the significance of contextual information using Mosaic AI Playground. Next, we’ll show you how to prepare data for generative AI solutions and connect this process with building a RAG architecture. Finally, you’ll explore concepts related to context embedding, vectors, vector databases, and the utilization of Mosaic AI Vector Search.

* Generative AI Application Development

The course is designed to provide you the practical experience in building advanced LLM applications using multi-stage reasoning LLM chains and agents. First, you’ll learn how to decompose a problem into its components and select the most suitable model for each step to enhance business use cases. Following this, we’ll show you how to construct a multi-stage reasoning chain utilizing LangChain and HuggingFace transformers. Finally, you’ll be introduced to agents and will design an autonomous agent using generative models on Databricks.

Note: This is the second course in the 'Generative AI Engineering with Databricks’ series.

**University of the Cumberlands – Graduate and Online Programs**   **Aug 2020 – Present**

***Instructor***

Taught the following graduate courses:

* MSAI 631: Artificial Intelligence for Human-Computer Interaction – 3 credit hours  
  This course examines the convergence of Artificial Intelligence (AI) and Human-Computer Interaction (HCI) and how they have revolutionized how we interact with machines and systems. The class emphasizes the symbiotic relationship between AI and HCI, equipping students with the knowledge and skills to design, develop, and optimize intelligent interactive systems. **Note:** Dr. Dennis was responsible for redesigning and developing a revision of the course, with a focus on Generative AI, chatbots, and LLM-based agents.
* ITS 538: Database Systems

In this course, the students learned about the basic models and capabilities of standard database management systems (DBMS) packages. Included in the course was an overview of database principles, file-level models, data-level models, and operations. The course also emphasizes implementation, maintenance, and security considerations. The students studied DBMS selection and evaluation methods to implement the design of a database project solution.

* ITS 630: Organization Leader & Decision Making

One of the most important skills a business leader needs concerning technology involves effective decision-making and governance. This class consisted of a case study approach presenting different scenarios that require decisions to be made on technology issues that are relevant to today's business environment. Students developed the skills for understanding the components and elements of these technology decisions and assessed associated risks. This course drew upon a cross-section of technology, finance, security, project management, leadership, and other aspects of effective decision-making.

* ISOL 534: Application Security

This course discussed methods to increase the security of application development and thwart attacker attempts to manipulate code. It also explored the software lifecycle and change control to reduce the probability of poorly written applications that allow an attacker to exploit coding errors. Database development models were introduced, focusing on choosing the best model to increase security.

* ISOL 536: Security Architecture and Design

The course focuses on the concepts and standards for designing and implementing secure software systems.

* ISOL 631: Operations Security

The course examines controls over personnel, hardware, software, and systems. It also covers possible abuse channels and proper countermeasures.

**Colorado Technical University**   **Aug 2020 – Jan 2023**

***Assistant Professor – Doctoral Studies (Computer Science) (Part-Time)***

* Taught Doctorate-Level classes, including:
  + CS 877 Introduction to Big Data Analytics
  + CS 879 Advanced Topics in Big Data Analytics:
  + CS 828 Advanced Topics in Database Systems:
  + EIS 852 Governance, Quality, Compliance and Ethics
  + CS 880 Foundations of Digital Systems Security
  + CS 882 Tools for Big Data Analysis

**Rasmussen University**   **Jan 2020 – Jul 2023**

***Adjunct Faculty (Part-Time)***

Part-time instructor teaching:

* QMB 5100C - Data Science Languages
  + Guide Master's Data Science students in programming in R and Python. Serving as both instructor and grader in the competency-based education program, ensuring that students avoid common pitfalls and receive customized guidance.
* QMB 5400C - Fundamental Classification Techniques
  + Guide master’s students in the use of classification techniques. The focus is on K-NN, K-Means, decision trees, rule-based, and bagging and boosting classification approaches.
* QMB 6000C - Advanced Statistical Techniques
  + Guide master's students in the application of various statistical techniques, including principal component analysis, Bayesian analysis, Monte Carlo simulation, and model validation.
* QMB 6300C - Big Data Technologies
  + Guide master's students in the use of Big Data tools like Hadoop (MapReduce/Hive), Spark, and applied ML.
* CDA 3315C - Fundamentals of Enterprise Architecture:
  + A course focused on business enterprise analysis, design, planning, and implementation. The course focuses on working with stakeholders, modeling business data flows and interfaces, determining the information security risk for an organization, and re-engineering business processes.
* CDA 3428C - Fundamentals of Distributed Application Architecture:
  + A course focused on the study of the design and use of distributed software applications as part of enterprise architecture in a typical business.

**Grand Canyon University**   **Jun 2019 – Mar 2022**

***Adjunct Instructor (Part-Time)***

Facilitate online courses focused on data science, computer science, enterprise application development, and Microsoft-related technologies, including:

* CST 580: Artificial Intelligence

This course covers key areas of AI focusing on theoretical and practical approaches to designing intelligent systems. Central themes include search, neural networks, probabilistic modeling, and game theory. Students explore specific algorithms and applications in depth, using modern programming paradigms.

* DSC 540: Machine Learning for Data Science

This course covers the use, analysis, design, and implementation of machine learning algorithms. Students acquire in depth understanding of the theoretical underpinning of both simple and advanced algorithms.

* CST 117: Enterprise Applications Programming I
  + This course provides an introduction to the fundamentals of C# programming and the .NET platform. The course covers program design and development, debugging techniques, structured and object-oriented programming, and basic GUI elements.

**Palm Beach Atlantic University**   **Aug 2020 – Apr 2021**

***Adjunct Professor (Part-Time)***

* CSC 4503 - Computer Simulation

Introduced the modeling and simulation of discrete and continuous systems—those characterized by stochastic discrete events and those characterized by differential equations—study and use of simulation languages.

* CSC 3703 - Artificial Intelligence

Introduced students to the fundamental concepts and techniques of artificial intelligence from a computer science perspective. The emphasis of the course was on the selection of data representations and algorithms useful in the design and implementation of intelligent systems. This course introduced AI languages and some discussion of important applications of artificial intelligence methodologies.

**Capella University**   **2003 – 2004**

***Part-Time Online Instructor***

* Taught Object-Oriented Analysis and Design focusing on OOA, OOD, Java, and UML
* Taught Introduction to Software Development, covering all stages of software development
* Responsible for instructing, mentoring, and grading

**University of Phoenix**  **2002 – 2003**

***Part-Time Online Facilitator***

* Taught Introduction to Object-Oriented Programming (Java)
* Responsible for lectures, facilitation, and student evaluation

**West Virginia University – Concurrent Engineering Research Center**  **1994 – 1995**

***Research Assistant***

* Developed an application to enable collaborative interaction and annotation of medical images.

**West Virginia University**   **1993 – 1994**

***Teaching Assistant***

* Taught introduction to computers. Responsible for course material presentation, test preparation, and grading.

# EDUCATION

* Doctor of Computer Science, Big Data Analytics
  + Colorado Technical University
    - In today's data-driven industries, companies that develop the capacity to turn large volumes of data into useful knowledge can develop a competitive advantage. This is creating a new area of expertise and specialization for data scientists with advanced skills to propose solutions to issues related to big data analytics.
    - The CTU Doctor of Computer Science with a concentration in Big Data Analytics is designed to develop thought leaders who have mastered the tools and techniques to analyze huge amounts of distributed, unstructured data to produce meaningful insight and automation for their respective organizations.
* Master of Science (M.S.), Computer Science
  + West Virginia University
* Bachelor of Science (B.S.), Business Administration – Computer Information Systems
  + West Virginia University at Parkersburg