

Matthew Henderson
Deputy Director for Research Computing & Design
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The University of Oklahoma

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Summary

Developer/programmer providing custom programming, data management, software, and process solutions within an applied academic research environment for over fifteen years, primarily in the social sciences.

Highlighted Activities:

- Build and maintain code and resources for custom collection and processing of large datasets from sources such as Twitter's streaming API (over 2.6 billion tweets).
- Develop web-based survey instruments for applied research with custom experiments.
- Design, develop, and maintain customized software system to enable a real-time, multi-user coding lab, allowing for data coding of social media data (Tweets), transcripts, articles, and data streams in support of applied research.
- Develop and administer websites with more than one million page views per year.

Key Skills:

- Ruby, SQL, Rails, HTML, CSS, shell scripting, Sinatra, Python, JavaScript.
- Substantial Experience With: MySQL, Nginx, R, SQLite, Git, Bash, S3, Docker, Passenger, OpenSSL, VPS services, API services, Ubuntu, SSH, Photoshop, Illustrator, MS Office, Microsoft SQL server, Oracle PL/SQL, PHP, VB.NET, Visual Basic, VBScript, Apache, IIS, Exchange Server management, Citrix, QuickBooks, Samba, Majordomo, Sendmail.
- Extensive experience working collaboratively and with interdisciplinary teams.
- Extensive experience managing data security in a cloud computing environment.
- Completed Enthought Machine Learning Track certification 2023.

Education

Houston Baptist University
MA, 2022

Heritage Christian University
BA, 2010

Texas A&M University
BS, 1998

Experience

The University of Oklahoma, Institute for Public Policy Research & Analysis

Deputy Director for Research Support and Integration, Research Associate

Feb 2022 – present

Deputy Director for Research Computing and Design

May 2015 – Jan 2022 (6 years 8 months)

Senior Systems Analyst

May 2011 - May 2015 (4 years)

- Technical lead to provide custom programming, data management, and software solutions within an applied academic research environment.
- Build and maintain code and resources for custom collection and processing of large datasets from sources such as Twitter's streaming API (1.7 billion tweets between Mar 2020 and Nov 2021).
- Design, develop, and maintain customized software system to enable a real-time, multi-user coding lab, allowing for data coding of social media data (Tweets), transcripts, articles, and data streams in support of applied research.
- Develop web-based survey instruments for applied research with custom experiments.
- Design, develop and maintain custom survey panel management software (instrumental piece of ongoing National Science Foundation-funded grant).
- Develop custom software for data management and visualization.
- CITI Human Subjects Research Certification: Social Behavioral Modules (June 2014 - present).
- Design, develop and administer websites.
- Create and manage data collection, processing, and storage architecture solutions for large datasets.
- Coordinate with subject-matter experts to develop and refine machine learning algorithms.

Utilized: Ruby, SQL, R, shell scripting, Rails, HTML, CSS, Python, JavaScript, Sinatra, PhotoShop.

Texas A&M University, Bush School of Government and Public Service

Senior Software Applications Developer

June 2004 - May 2011 (7 years)

- Develop web pages and web applications
- Server administration

Utilized: IIS, SQL server • HTML/CSS, Ruby on Rails, SQL, PHP, VB .NET

Independent Technology Consultant

December 1998 - May 2011 (12 years 6 months)

- Wide range of experience designing systems and processes to meet customer needs

Utilized: Ruby on Rails, SQL, HTML, CSS, VB.NET, Server deployment/management

Green Valley
Systems Analyst

August 2002 - November 2003 (1 year 4 months)

- Administration of computer hardware and network
- Technology support for employees and customers
- Nortel Meridian phone system management
- Network installations

Utilized: VB.NET, Exchange, IIS, SQL Server, Citrix, QuickBooks

Texas A&M University, Texas A&M Engineering Extension Service
Multimedia Communications Specialist

February 2002 - August 2002 (7 months)

- Website development in Oracle Portal/PLSQL
- Technology support, Illustrator, PhotoShop

Utilized: Oracle Portal/PLSQL, Illustrator, PhotoShop

Texas A&M University, College of Veterinary Medicine
Systems Analyst I

September 2000 - February 2002 (1 year 6 months)

- Relational database design/implementation
- Migration from VAX system and creation of veterinary hospital's new client/server information system
- Wrote major portion of the billing and account receivables software for system
- Programmed various portions of the patient information system which had approximately 400 users and handled over 4,900 active accounts in the first three months
- Administrative duties on Windows 2000 Advanced Server, and SQL Server 2000, Linux

Utilized: Visual Basic, SQL, VBScript, JavaScript, PHP/MySQL

Texas A&M University, Biological and Agricultural Engineering
Website Administrator

September 1999 - September 2000 (1 year 1 month)

- Web development with HTML, PHP, SQL, ASP
- Design work, reorganization and maintenance of department's website
- Administrative duties on Windows, Linux, Solaris -- (Apache, MySQL, Samba, Majordomo, Sendmail, Exchange, IIS 4)
- Migrated services from Solaris, including email, listserv, web services, shared drives; implemented backup/recovery systems

Utilized: HTML, PHP, SQL, ASP

Honors and Awards

- 2012 Council for Advancement and Support of Education (CASE) Award (World Wide Web Page)
- 2012 CASE Award (Web Site Redesign)
- 2010 CASE Award (World Wide Web Page)
- 2009 CASE Award (World Wide Web Page)
- 2010 IABC Award of Merit
- 2009 IABC Brazos Bravo
- 2009 IABC Award of Excellence
- 2008 IABC Award of Excellence
- 2006 Outstanding Staff Award (Bush School, Texas A&M University)