

Michael Busch, DCS

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Education ♦ Data Science ♦ Software Engineering ♦ Communication

A **Software Technologist** with more than **30 years of industry experience** in the support and development of marketable software. Involved in all phases of Software Engineering, including gathering requirements, feature design and documentation, implementation, and refactoring. Core competencies include:

Software Engineering – Development, maintenance and support of software using: Python, C#, SQL, Java/JavaScript, HTML/DHTML, XML/WSDL, MFC, C/C++, FORTRAN. Platforms include: Windows 2000/XP, Red Hat Linux, Fedora Core, Solaris and HPUX.

Big Data Analytics – Certified Hortonworks Java Developer, graduate-level Big Data concentration during DCS degree including Big Data-oriented dissertation.

Agile Development Process – Strong in real-time communication, process documentation and instruction. Interface with customers, programmers, product managers, business analysts, testers, interaction designers, technical writers, and managers to produce working software.

Communication – Master Practitioner of Neurolinguistic Programming and Certified Hypnotherapist with solid experience conducting on-site corporate training, enterprise customer interface, graduate, and undergraduate level course instruction.

PROFESSIONAL EXPERIENCE

REGIS UNIVERSITY, Denver, CO

Apr 2022 – Present

Associate Professor

- ♦ Masters Data Science Program. Courses and responsibilities as noted below.

REGIS UNIVERSITY, Denver, CO

Aug 2017 – Present

Assistant Professor

- ♦ Masters Data Science Program. Courses and responsibilities include:
 - ♦ Research project – Augmented Reality Training system
 - ♦ Data Science Practicum
 - ♦ Data Engineering Practicum
 - ♦ Data Engineering Overview
 - ♦ Overview of Data Science
 - ♦ Co-creation of Data Engineering specialization
 - ♦ Data Analytics
 - ♦ Machine Learning
 - ♦ Data Science lab administration
 - ♦ Hadoop lab administration

COLORADO TECHNICAL UNIVERSITY, Westminster & Aurora, CO

July 2012 – Aug 2017

Adjunct Professor

- ◆ Undergraduate computer science courses. Subjects include:
 - ◆ Senior Capstone
 - ◆ Software Engineering
 - ◆ Object Oriented Design
 - ◆ Data Structures
 - ◆ Introductory Programming Languages (C++, Java, Python, Bash shell)
 - ◆ Elementary Algebra
 - ◆ Discrete Mathematics

REGIS UNIVERSITY, Broomfield & Denver, CO

2005 – 2010

Affiliate Professor

- ◆ Teach graduate-level object-oriented software engineering courses. Subjects include:
 - ◆ Software Engineering
 - ◆ Software Design
 - ◆ Intro, Advanced, and Enterprise Java
 - ◆ Intro and Advanced C#

MCKESSON CORPORATION, WESTMINSTER, CO

2006 – 2012

Technical Support Analyst

High-level systems and software support of emergency room patient charting software.

- ◆ Investigate and correct issues with data storage in Oracle 9i and 10g using both command line and GUI tools (SQL Developer, DB Visualizer).
- ◆ System level support such as investigating application slowness, troubleshooting FAX processes, disk usage issues, finding and correcting root cause of core file generation, finding runaway processes, printer issues, and patch installation.
- ◆ Custom tool development - Created shell scripts and VBA programs to monitor application health, C# tools to profile application performance, access customer database systems and monitor data, PL/SQL scripts to automate work tasks.

ROGUE WAVE SOFTWARE, Boulder, CO

1997 – 2006

Software Developer (2004 – 2006)

Used WWW-related technologies and Java to create the presentation layer of a grid-based SOA development project. Provided enhancement and technical support for Swing (Java)-based widget packages.

- ◆ Used JavaScript to co-create an XML document pre-processor for display in DHTML pages.
- ◆ Developed an Eclipse wizard that insured correct user input, making a larger project interface easier to use.
- ◆ Created and facilitated on-site training courses for enterprise clients such as Sterling Financial and AT&T.

Development Support Engineer (1997 – 2004)

Supported and maintained developmental software. Identified, researched, reproduced and documented software bugs. Wrote bug fixes and workarounds. Interfaced with clients and internal development to train, answer questions, and explain technical procedures. Conducted on-site customer training.

- ◆ Wrote demonstration programs using MFC and C#, Cross-platform C++ libraries, and Java Swing programming languages.
- ◆ Provided technical training and mentorship for a large client base of Fortune 500 companies.

WSE COMPUTER CONSULTING, Ft. Collins, CO

1991 – 1997

Owner/Consultant

Consulted businesses and individuals on improving technical efficiency and provided solutions to computer problems. Educated users on software upgrades, troubleshoot problems, and fixed hardware crashes. Managed all facets of the accounting, administration, marketing and strategy of the business.

- ◆ Established client base and grew business exponentially through partnerships, marketing and referrals.

COLORADO STATE UNIVERSITY, Ft. Collins, CO

1988 – 1991

Teaching Assistant

- ◆ Taught Data Structures and FORTRAN classes.

EDUCATION & TRAINING

Doctorate of Computer Science Colorado Technical University, 2016.

- Big Data Analytics concentration
- **Dissertation title:** “A Comparative Analysis Of De Novo Genetic Assembly Software Performance Both With And Without GPU Parallelism In A Mapreduce Cluster”

Master of Science -- Computer Information Technology, Regis University, Denver, CO 2004.

Bachelor of Science in Computer Science, Regis University, 2001.

Certified Master Practitioner, Neurolinguistic Programming Comprehensive, 2003.

“Instructional Techniques for New Instructors”, Langevin Learning Services.

“Instructional Design for New Designers”, Langevin Learning Services.

3D Printing and Object Design, various online 3D modeling software tutorials, hands-on 3D printing. Approximately 50 hours combined.

APPOINTMENTS

Data Science Department Lab Director

July 2019 to Present

PROFESSIONAL PRESENTATIONS

2019 Busch, Michael W. “Redesigning MSDS 620 Data Collection and Preparation.” Regis CCIS Faculty Research Retreat

2018 Busch, Michael W. "Network Intrusion Detection using Spark and Machine Learning."
CCIS Faculty Research Retreat