

Joseph Colton

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Section 1: Education

M.S., Computer & Information Science, University of Oregon, Eugene, Oregon (June 2009)
B.S., Computer Science, Brigham Young University Hawaii, Laie, Hawaii (June 2002)

Section 2: Work Experience

Faculty Instructor, Lane Community College

Description: Prepared and taught classes covering C/C++, Python, x86-64 Assembly, C# ASP.NET Core MVC, Java, Windows Desktops, Microsoft Windows Server, Linux, Game Development, Networking, and Cisco (Cisco Network Academy). Wrote LMS and automatic evaluation software using C, Python, MariaDB SQL, Apache, and JavaScript. Worked with students from various cultural backgrounds and special needs including online students from rehabilitation institutions. Performed curriculum development. Both prepared and used existing lecture material to present lectures. Managed servers including a student web hosting server, a VMWare ESXi server. Prepared and graded labs, quizzes, and exams. Worked with students with academic honesty issues. Taught both in person and online using technologies such as Zoom, Discord, and YouTube.

I also served on multiple committees and councils including the LCC Education Association (LCCEA) in grievance, bargaining work, and as VP of Transfer; Faculty Council, Learning Council, College Council, Faculty Recognition Awards Committee, Assessment Team, Strategic Enrollment Management (SEM), Department Planning, Achieving the Dream (ATD), and Degree Qualifications Profile (QDP).
January 2010 – Present

Graduate Employee: Research, University of Oregon

Description: Researching Multi-Cloud communication and measurement. Create virtual machines in AWS, GCP, and Azure cloud infrastructure. Measure communication between virtual machines, calculate optimized paths, and generate GRE and WireGuard tunnels. Optimizing Pareto-optimal path selection using multi-threaded C. Benchmarking default paths and optimized tunnels. Generated data visualization graphs using matplotlib and Python. Wrote papers and submitted them to conferences.
September 2022 – Present

Adjunct Instructor, Oregon Institute of Technology

Description: Taught classes covering C# and desktop application development using forms, databases, XML, delimited files, and exception handling. Taught using Zoom and Discord and also created prerecorded demonstrations and tutorials. Performed all grading and grade reporting.

Instructor, ROI Training

Description: Taught classes covering security, Python, Object Orient Programming, HTML5, CSS, JavaScript, Angular, and Java. Traveled to teaching sites and provided full day instruction for weeks at a time in Chennai, India.
September 2017 – 2019

Adjunct Instructor, University of Oregon

Description: Prepared and taught a course in digital information processing. Prepared and presented lectures to close to 100 students. Prepared student assignments. Managed graduate teaching fellowship (GTF) students who taught labs and graded the assignments. I prepared and graded exams both online and on paper. Reported final grades. Worked with students with academic honesty issues.
January 2010 – March 2010

Adjunct Instructor, Northwest Christian University

Description: Prepared and taught courses covering Microsoft Office 2007, Web Page Design, and Operating System design and implementation. Prepared and presented lectures. Graded student assignments and exams. Reported final grades. Worked with students with academic honesty issues.
September 2008 – August 2009

Intern, Garage Games, Inc.

Description: Fixed bugs in games in both the game engine and the Torque script. Added additional features and testing functions to the engine and game script. Wrote JavaScript code to support browser embedded interaction with the game. Updated JavaScript functions to handle notifications and parsed XML documents using AJAX techniques. Wrote document builder in Python. Created XML Schema for XML document specification. Created build script web front-end, complete with JavaScript, Python CGI, CSS, and AJAX.
June 24, 2008 – September 12, 2008

Lab Consultant, Freylab, University of Oregon

Description: Performed Mac OSX and Linux Updates. Installed FSL fMRI data analysis software. Wrote presentation scripts. Modified Java programs for interaction between a glove and a robotic arm. Updated the lab website.
September 15, 2007 – June 14, 2008

Brigham Young University Hawaii (BYUH)

Senior Applications Software Analyst, Management Information Systems (MIS, BYUH)

Description: Create and Modify PeopleSoft Components, Pages, Records, etc. PeopleSoft Security in Development, Created change control documents, Create Functional and Technical Specifications. Created custom queries for various departments. Made statistical presentations. Created reports for Institutional Research to meet their accreditation goals and requirements.
November 1, 2005 – July 31, 2007

System Administrator 2 / Systems Analyst – Linux Systems, IT Infrastructure (BYUH)

Description: Designed Academic Computing Lab Services Network routers and switches. Installed and Manage multiple Gentoo Linux servers. Managed ProofPoint Email Filters, Websense Web Filter, 7 DNS servers, Linux Update/Mirror server, Library "ezproxy" proxy server, School of Computing DHCP servers, SOC TACACS+ servers, SOC Switches. Developed "Uhina" network management, inventory, and monitoring server using Python and SNMP. Supervised a student worker on Uhina development.
September 19, 2004 – October 31, 2005

Network Administrator, School of Computing (SOC, BYUH)

Description: Supervised students in lab workstation images, configured and maintained Microsoft Windows 2000 servers, and Gentoo Linux servers. Supervised students in maintaining servers. Trained students and established regular training meetings.
December 11, 2003 – September 18, 2004

System Administrator, Computer Science Department (BYUH)

Description: Tutoring students, training tutors, creating and documenting programs, wrote a search engine, wrote a network monitoring system, wrote a mailing lists program, wrote programs to handle the creation of new student accounts, managed the School of Computing DNS and DHCP servers, managed the CS computer lab.
July 2001 – June 30, 2002

Assistant Programmer, Software Development Office (SDO, BYUH)

Description: Worked on developing a new GUI based product will control all of the media requests from teachers and will replace the old Dynix that the library currently uses. Wrote programs to extract data from the old Dynix databases and convert the data to new SQL based databases.
January 12, 2000 – March 6, 2001

English Teacher, English Language and Computer Institute (ELCI)

Description: Preparing English Lessons in HTML and PowerPoint formats, teaching English, calling students and parents, finding new students, documenting school processes, procedures, and

protocols.

January 8, 2003 – October 31, 2003

Section 3: Teaching Experience

Lane Community College

CIS 103 – Computer Fundamentals at Work
CIS 125G – Software Tools 1: Game Development
CIS 125SL – Introduction to Second Life
CIS 135W – Computer Applications: Introduction to Web 2.0
CIS 140U – Introduction to Linux/Unix
CIS 140W – Operating Systems: Managing Windows
CIS 227N – Systems Support: Network & Operating Systems
CS 161J – Computer Science 1 (Java)
CS 162J – Computer Science 2 (Java)
CS 161C – Computer Science 1 (C++)
CS 162C – Computer Science 2 (C++)
CS 161P – Computer Science 1 (Python)
CS 162P – Computer Science 2 (Python)
CS 179 – Introduction to Computer Networks
CS 188 – Wireless Networking
CS 189 – Routing and Switching Essentials
CS 205 – System Programming and Architecture
CS 233P – Intermediate Programming: Python
CS 233S – Python for System Administrators
CS 240U – Advanced Unix/Linux Server Management
CS 240W – Windows Server Administration
CS 284 – Network Security Fundamentals
CS 285 – Operating System Hardening
CS 286 – Firewalls and VPNs
CS 288 – Network Monitoring & Management
CS 289 – Cisco Router and Switch Administration
CS 295N – Web Development 1: ASP.NET
CS 297 – Programming Capstone

Oregon Institute of Technology

MIS 218 – Intermediate Programming in C#

University of Oregon

CIS 110 – Digital Information Processing
CIS 115 – Multimedia on the Web

Northwest Christian University/Bushnell University

CIS 123 – Microsoft Office 2007
CIS 125 – Web Design
CIS 255 – Operating Systems

Brigham Young University Hawaii

IS 390R – PeopleSoft Development
IS 389 – Computer Network Design
IS 390R – Advanced Unix Administration
IS 289R – Computer Network Design
IS 220 – Introduction to Unix Administration

ELCI

Taught English Conversation Classes in Nagoya, Japan
January 2003 – October 2003

Section 4: Publications

Joseph Colton and Ram Durairajan, "MCSim: A Discrete-Event Simulation Framework for Studying Multi-Cloud Networks," in 2025 IEEE 33rd International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS).

<https://ieeexplore.ieee.org/document/11283383> (Acceptance Rate: 24%)

Joseph Colton, Ram Durairajan, Reza Rejaie, and Walter Willinger, "*On the Impact of Submarine Cable Deployments on Multi-Cloud Network Latencies*," in 2024 IEEE 13th International Conference on Cloud Networking (CloudNet). IEEE, 2024, pp. 1–9. <https://ieeexplore.ieee.org/document/10815788>

Section 5: Research/Programming Projects

Linux Guidebook 3

Description: A guidebook for basic administration of Ubuntu Linux systems based on SystemD. Covers topics such as history, installation, networking, security, firewalls, command line interface, system administration, backup, MariaDB SQL Database, Apache, Postfix, NFS, NIS, DNS, and DHCP.

<http://linuxguide.josephcolton.com/3/>

Network Learning Management System

Role: Created an online system to deliver content to students in the Linux and Cisco classes at Lane Community College. I created the labs and evaluation tests so the students could repeatedly check to status of their lab progress. I linked appropriate YouTube videos and online textbook materials to assist in the completion of the labs.

Winter 2017 – Present

MultiCloudSim

Role: I created the simulator.

Description: MultiCloudSim is a discrete-event simulator for modeling multi-cloud network environments. MultiCloudSim supports hierarchical topologies with cloud providers, regions, zones, and nodes, connected by edges annotated with latency, jitter, bandwidth, packet loss, and egress cost.

<https://gitlab.com/onrg/multicloudsim>

<https://ieeexplore.ieee.org/abstract/document/11283383>

TCPPing

Role: Created a CLI program to measure pings using the TCP protocol.

<https://github.com/josephcolton/tcping>

Linux Guidebook 2

Description: A guidebook for basic administration of CentOS Linux systems based on SystemD. Covers topics such as history, installation, networking, security, firewalls, command line interface, system administration, backup, MariaDB SQL Database, Apache, Postfix, NFS, NIS, DNS, and DHCP.

<http://linuxguide.josephcolton.com/2/>

2015 – 2021

Online Student Evaluations

Role: Created an online system connected to MyLane that will allow faculty to create personalized course evaluations, taken by students, and later viewed by faculty and managers. I configured the server, wrote the scripts, built the database, negotiated data feeds from IT, worked with Faculty Council, Institutional Research and Planning, and Administration to overcome barriers. Currently working on promotion and training.

Fall 2014 – Present

YouTube NetSecProf

Role: Created a series of YouTube videos to help students with networking concepts. Total viewership is in the thousands. The videos are available at <http://www.youtube.com/NetSecProf/>

October 2011 – Present

OpenOffice.org Utility Library (oolib)

Role: Created project and contribute nearly all of the code.

Description: Modules for creating OpenOffice.org and Open Document Format (ODF) documents.

There are currently two modules, one in Perl that provides support for OpenOffice.org Writer and Calc documents. The second one is written in Python and provides support for Open Document Format (ODF) spreadsheets.

<http://sourceforge.net/projects/oolib/>

Both the Perl module and the Python version have been included in Debian GNU/Linux Distribution and distributions based on Debian such as Ubuntu and Linspire.

<http://packages.qa.debian.org/o/oolib-perl.html>

<http://packages.qa.debian.org/o/oolib-python.html>

August 2003 – 2008

Uhina Network Utility

Role: Created project and contributed nearly all of the code.

Description: A web based network management system. The system monitors networking devices for availability, utilization, and anomalies. Additionally, the system keeps track of IP addresses, physical inventory, checking of applications and services, administrators and contact information, and provides a web front-end to various tools such as nmap, ping, tcptraceroute, dig, SNMP, whois, and email.

October 2004 – October 2005

Linux Guidebook

Description: A guidebook for basic administration of Red Hat Linux systems. Covers topics such as history, installation, networking, security, firewalls, command line interface, system administration, backup, MySQL, Apache, Sendmail, NFS, NIS, DNS, and DHCP.

<http://linuxguide.josephcolton.com/1/>

January 2002 – June 2002

Section 6: Leadership & Management

Lane Community College Education Association

I served on the grievance team 2020-2021 as a regular member, and as chair of the grievance team 2025-2026. I served as VP of Transfer from 2021-2022. I served as a member of the association bargaining team 2021-2022.

Faculty Council

I have Served on the Faculty Council since 2000. During my time on Faculty Council, I have served as a Co-Chair for a total of four years. While on the council I have created agendas, conducted meetings, worked with administration and LCCEA to resolve issues and concerns. We have recruited faculty to committees and councils and have passed recommendations from the Faculty Council.

Faculty Recognition Awards Committee

I have been serving on the Faculty Recognition Awards Committee for a number of years and have been serving as the committee Chair for the last two years (since 2014). While on the committee I prepared data, conducted meetings, purchased and prepared awards, and arranged presentations.

University of Oregon Adjunct Instructor

While working at the University of Oregon as an adjunct instructor I was responsible for supervising 2 student GTFs and reporting on their quality of work.

Computer Network Operations Program

I have been a Faculty Member in the Computer Network Operations program since 2010. While serving as a faculty member I have been involved in writing unit planning initiatives, creating new classes and putting them through curriculum committee, and helping new adjunct faculty with their classes. I have been the Security Certificate Lead for a couple of years and have also recently taken over as program lead

for the Computer Network Operations program and have been making updates and modifications to the program to keep it relevant.

BYUH Network Administrator

While working at BYUH I was responsible for directing 8-10 students in the imaging of labs, running network lines, and configuring routers, servers, and switches to support the academic infrastructure. Later, I changed positions and was responsible for training and supervising a couple of programmers (one was full time) who worked on our PeopleSoft ERP system.

Volunteer Leadership – Bishops Councilor

I have on multiple occasions served in volunteer leadership positions. I served as a councilor to a bishop at a church and sometimes conducted chapel meetings with rooms of around 100 people. I worked in arranging activities, doing interviews, and trained people in various positions.

Volunteer Leadership – Cub Scout Leader

I have spent time working in the Cub Scouts organization. I arranged activities, worked the boys through the requirements, training them and getting them qualified for awards.

Volunteer Leadership – Mission District/Zone Leader

I served a mission for two years to Hiroshima Japan. While in Japan I had multiple occasions to be in a leadership position. I worked as a trainer for new missionaries, then as a district leader over 4-6 missionaries. Later in my mission I served as a zone leader and was in charge of about 20 missionaries. During this time I worked with them on goal setting, numbers reporting, and training.

Section 7: Certifications

Cisco Certified Network Associate (CCNA)

April 14, 2005 – Expires: Sept 3, 2027

<https://cp.certmetrics.com/cisco/en/public/verify/credential/9N241VCGQGFEQP3Q>