

## **Charles Costarella**

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### ***Teaching Experience***

#### **Present Position**

Sep. 2013 to present: Full Time Lecturer, Information Technology and Systems  
Institute of Technology, University of Washington, Tacoma, WA  
Delivery of ITS courses in Networking, Routing and Switching, Network Programming (C#, .Net, Java, and Python), and Cybersecurity topics in networks and system administration. In addition to my teaching I serve as advisor to undergraduate research projects in subject areas relevant to my research interests. I am a member of the University's Executive Council and I serve as faculty advisor to the campus Gray Hat Group.

#### **Jun. 2013 to present: Adjunct Faculty, Computer Science**

Highline Community College, Des Moines, WA  
Delivery of CSCI 100, Survey of Computing. Covers a general survey of current hardware, software, systems software, and network technologies. Includes an introduction to programming, logic, and problem solving. Highline employs the use of a hosted software solution for course organization and grading, presentation of assignments and tests, and tools to amplify student-teacher communication and group collaboration.

#### **Aug. 99 to June 2011: Adjunct Faculty, Computer Information Science**

Antelope Valley College, Lancaster, CA  
Design and delivery of CIS111, Introduction to Programming and Algorithms using Java. This is a first semester (CS1) course taught in Java with a lecture and a lab for Computer Science majors. I have used both an "Objects first" approach and a traditional control structures delivery approach. Design and delivery of CIS113, Data Structures, a second semester (CS2) programming course taught in Java with a lecture and a lab for Computer Science majors. I have also taught intro level programming courses in QBasic and Pascal as well as Beginning and Advanced Word Processing courses using Microsoft Word. Additionally, I substituted one semester teaching a History of Rock and Roll course for a colleague.

### ***Courses Taught***

#### **University of Washington Tacoma**

*Summer 2016 (scheduled)*

*TINFO 452 A – System Administration*

*TCSS 143 A – Fundamentals of Object Oriented Programming Theory and Application*

#### **Spring 2016**

**TINFO 452 A – System Administration**

**TCSS 101 – Computer Science Principles**

**TINFO 497 – Internship (serving as faculty advisor)**

Humzah Abdol  
Ahmed Ali  
Brian Bui  
Chance Cookston  
David Dorch  
Sameer Hakimi  
Kuncil Jamal  
Mike McCormick  
Siddharth Saini  
Jason Sexton  
Amandeep Shergill  
Igor Tekmenzhi

**TINFO 498 – Directed Readings**

Mark Garces – Advanced JavaScript  
Alejandro Garcia Ochoa – Advanced JavaScript  
Trenton Lawton – Advanced JavaScript  
Senan Loukman – Advanced JavaScript  
Zakariya Mohamed – Advanced JavaScript  
Su Park – Advanced C# (concurrency, OO, .NET)  
Siddharth Saini – SQL Server programming w/.NET and Entity Framework  
Jason Sexton – CCNA3, Scaling Networks w/NetAcad  
Sabeen Tahir – Advanced JavaScript

**Winter 2016**

**TINFO 200 A– Programming II for ITS (C# .NET)**

**TINFO 200 B – Programming II for ITS (C# .NET)**

**TINFO 431 A – Server Side Web Applications (ASP.NET MVC 5)**

**TINFO 497 – Internship (serving as faculty advisor)**

David Dorch  
Alejandro Garcia Ochoa  
Sameer Hakimi  
Trenton Lawton  
Mike McCormick  
Siddharth Saini  
Amandeep Shergill  
Adam Voelker

**TINFO 498 – Directed Readings**

Ahmed Ali – CCNA3, Scaling Networks w/NetAcad  
Jason Erickson – CCNA3, Scaling Networks w/NetAcad  
Brandon Evans – CCNA3, Scaling Networks w/NetAcad  
Mark Garces – CCNA3, Scaling Networks w/NetAcad  
Osaseen Gollen – Information Assurance, Business Management Topics  
Senan Loukman – CCNA3, Scaling Networks w/NetAcad  
Alexandro Maldonado – System Administration, Windows Server and RHEL

### **Autumn 2015**

**TINFO 250 A – Foundations of Information Networking**

**TINFO 250 B – Foundations of Information Networking**

**TINFO 451 A – Routing and Switching**

**TINFO 497 – Internship (serving as faculty advisor)**

Erika Baker – C#, ASP.NET MVC 5

Teodorico Divina - ASP.NET MVC 5

Jason Erickson – Network and Sysadmin, UW Tacoma

Trenton Lawton – Web design and Server Side Web Programming

Alexandro Maldonado – Database programming and server side web

Igor Tekmenzhi – Database programming and server side web

**TINFO 498 – Directed Readings**

Duke Hefner – System Administration, MCSA Windows Server and Linux+ prep

### **Summer 2015**

**TINFO 451 A – Routing and Switching**

**TINFO 497 – Internship**

Sumitpal Rai – Network security

### **Spring 2015**

**TINFO 452 A – System Administration**

**TCSS 600 – Independent Study or Research**

Swathika Balasundaram – Mobile Android Development w/GIS

**TINFO 497 - Internship**

Anitoliy Gritsenko

Myong Kim

Earl Switzer

**TINFO 498 – Directed Readings**

Sam Kim – ASP.Net MVC 5 Facebook app

Earl Switzer – System Administration topics

### **Winter 2015**

**TINFO 200 A– Programming II for ITS (C# .NET)**

**TINFO 200 B – Programming II for ITS (C# .NET)**

**TINFO 431 A – Server Side Web Applications (ASP.NET MVC 5)**

**TINFO 497 - Internship**

Iatkit Ho

Scott Shaffer

### **Autumn 2014**

**TINFO 250 A – Foundations of Information Networking**

**TINFO 250 B – Foundations of Information Networking**

**TINFO 451 A – Routing and Switching**

**TINFO 498 – Directed Readings**

Blake McIntyre – Windows Share Point

**TINFO 499 - Undergraduate Research**

Blake McIntyre – MS SQL Server

Joon Choi - ASP.Net MVC 5, security, dependency injection, TDD  
JeeUn Yoo - ASP.Net MVC 5, security, dependency injection, TDD  
Charles Fraychineaud – Designing CCNA Routing and Switching lab exercises

#### **Summer 2014**

**TCSS 143 A – Fundamentals of Object Oriented Programming Theory and Application**

**TCSS 498 - Directed Readings in Computing and Software Systems**

Khoi Le – Port Tetris game from Java to C# and also Python

**TINFO 498 – Directed Readings**

Joon Choi - ASP.Net MVC 5, build web site

JeeUn Yoo - ASP.Net MVC 5, build web site

Himchan Han – Network security topics

latkit Ho – Network security topics

Janet Kim – Network security topics

Lloyd Thomas – Network security topics

#### **Spring 2014**

**TINFO 452 A – System Administration**

**TINFO 443 A – Digital Forensics (Mobile Digital Forensics)**

**TINFO 498 – Directed Readings**

Charles Fraychineaud – Network and System Administration Lab Exercises

#### **Winter 2014**

**TINFO 200 A– Programming II for ITS (C# .NET)**

**TINFO 200 B – Programming II for ITS (C# .NET)**

**TINFO 503 A – Designing and Executing Information Assurance and Cyber Security Strategies**

#### **Autumn 2013**

**TINFO 250 A – Foundations of Information Networking**

**TINFO 250 B – Foundations of Information Networking**

**TINFO 451 A – Routing and Swtiching**

#### **Highline College**

**CSCI 100 – Survey of Computing**

(taught Summer 2013)

#### **Antelope Valley College**

**CIS 111 – Intro to Programming and Algorithms**

(taught Fall 1999, Spr 2000, Fall 2000, Spr 2001, Fall 2001, Spr 2002, Fall 2002, Spr 2003, Fall 2003, Spr 2004, Fall 2004, Spr 2005, Fall 2005, Spr 2006, Fall 2006, Spr 2007, Fall 2007, Spr 2008, Fall 2008, Spr 2009, Fall 2009, Spr 2010, Fall 2010, Spr 2011)

**CIS 113 – Data Structures**

(taught Spr 2005, Spr 2006, Spr 2007, Spr 2008, Spr 2009, Spr 2010, Spr 2011)

**CA 111 – Word Processing**

(taught Fall 2009, Fall 2010)

**CA 113 – Advanced Microsoft Word**

(taught Fall 2010)

## **Education and Certifications**

University of Washington Tacoma

Fall 2011 to Spring 2013 (current, anticipated graduation with MS June 2013)

Anticipated Degree: MSCSS, Masters of Science in Computer Science and Systems

Recipient NSF/SFS Scholarship for Service, Specialization in Cybersecurity

*Research topic for Masters Capstone Project is "Hardening Honeynets against Honeypot-aware Botnet Attacks". This project uses extensive virtualization technology for all servers, hosts, guests, and routers as well as honeypot, botnet, and command & control nodes. Other research areas are securing critical infrastructure SCADA systems, and integrating secure coding practices into the traditional computer science curriculum.*

Network Engineering Certificate, University of Washington Professional and Continuing Education, 1 year certificate program completed June 2013.

ISRM Certificate in Information Assurance Risk Management, received from University of Washington iSchool, Seattle, Washington, received June 2012

Certification from NSA/DHS Center for Information Assurance and Cybersecurity, compliant with CNSS 4011 (INFOSEC) and 4012 (Senior Systems Managers), received June 2012

B.S., Bachelor of Science in Computer Science

Chapman University, Edwards Air Force Base, California, August 1999

Cerro Coso Community College, Ridgecrest, California (online only)

Fall 1998 to Spring 1999, No degree

A.S., Associate of Science, Computer Programming, and Computer Programming Certificate

Antelope Valley College, Lancaster, California, May 1997

University of Southern California, Los Angeles, California

Fall 1979 to Spring 1982

Major: Music, Studio Guitar Performance, No degree

University of California, Los Angeles

Fall 1977 (1 quarter only)

Major: Music, Guitar Performance, No degree

Antelope Valley College, Lancaster, California

Fall 1976 to Spring 1979

Major: General Education, No degree

## **Research Accepted for Publication**

Charles Costarella, Sam Chung, and Barbara Endicott-Popovsky, *Hardening Honeynets against Honeypot-Aware Botnet Attacks*, International Conference on Cloud Security Management (ICCSM 2013), Seattle, USA, 17-18 October 2013. (abstract was accepted, the full paper was submitted, 10 pages)

## **Professional Experience**

Sep. 2012 – March 2013: Information Assurance Intern, City of Seattle Washington. I reported

directly to the CISO, Michael Hamilton. Tasks included daily network monitoring, incident response, and digital forensics investigations of internal and external attacks and misuse of municipal resources. Responsibilities included monitoring FireEye, Websense, F.R.E.D. forensics platform using FTK Toolkit, and misc. digital forensic software tools and procedures. I gave regular periodic briefings and reports on monitoring and investigation activities to the CISO.

Sep. 2001 – June 2013: CEO and CFO of Bronze Bunz Inc, a California S Corporation based in Palmdale, CA (DBA Bronze Bunz Tanning) with stores in Lancaster, CA and Palmdale, CA. Operational day to day management of a 2 store chain of tanning salons. Founded by my wife and myself in September 2001, we grew this business from a single location with 5 tanning units to our current holdings which include 2 retail locations covering almost 5,000 sq. feet in the Lancaster/Palmdale area operating more than 35 pieces of tanning equipment and employing 15 to 20 employees depending on the season. We have achieved annual gross sales of over 1 million dollars and operated as many as 4 locations concurrently (2007-8). We sold the business in June 2013.

Feb. 2001 – Mar. 2002: Technical Consultant, Trintech Inc., San Mateo, CA  
Development and customization of online financial transaction processing software. Windows C++/MFC and Java (Swing and JSP) development including Java Servlets, RMI, and JDBC for transaction server running on Solaris with an Oracle DB. I interfaced with customers to gather requirements, define specifications, and worked to achieve total customer satisfaction with a highly customizable product in a multi-cultural environment which included clients in Brazil, Korea, Europe and the US. Other Professional Services duties included installation, configuration, and documentation of OpenSSL to create and manage private keys and certificates, Apache Web Server (using mod\_ssl for security), Jakarta Tomcat Application server for JSP pages and Java Servlets.

Jan. 2001: Java Corporate Trainer, Versata Inc., Oakland, CA  
Design and delivery of professional training for Java developers using JSP and Java servlet technologies to create transaction based website utilizing the Versata Studio, a VB-like tool for creating transaction based websites.

Oct. 99 to Nov. 2000: Sr. Software Engineer, Ask Jeeves Inc., North Hollywood, CA  
Java Enterprise J2EE development of client/server virtual help desk network applications suite. HTML/JSP and Java Applet versions of a live chat client application. Client modules interfaced with multiple server applications via Java Servlets. Development of signed Java applet and ActiveX control to manipulate client browsers. Ask Jeeves maintained a full test lab of client computers utilizing virtualization for multiple operating system test machines.

Apr. 97 to Oct. 99 (except for Jan. 98 to Apr. 98): Software Engineer,  
Symionics Inc., United States Air Force Flight Test Center, Edwards AFB, CA  
Windows NT/Sun Solaris/SGI Irix parallel development of post flight test analysis tool. Development of user interface, data management, and analysis modules in C++ and Java on all three platforms. Additionally, I was in charge of writing software test descriptions for entire APTAS system deliverable to perform acceptance testing at the Initial Operating Requirements (IOC) deadline.

Jan. 98 to Apr. 98: Software Engineer

Symvionics Inc., United States Air Force Flight Test Center, Edwards AFB, CA  
Windows NT development for USAF Flight Test Center Intranet. EDGE project was the development of a corporate intranet for Air Force Flight Test Center 412 Test Wing. Included was a training application for complete automation of the business process involved in applying and undertaking training. Design and development of client/server web application using Java, JavaScript, SQL, and HTML. Responsible for Netscape Enterprise Server admin and NT Server admin including source code control. Also in charge of design and implementation of the project's disaster recovery plan.

Oct. 97 to Dec. 97: Software Engineer

Century Computer Consultants, Overland Park, Kansas

Modification and maintenance of real time Customer Event Distributor system in C, C++, and UNIX Shell script on IBM AIX platform for telecommunications customer World Com in Tulsa, OK.

1995 to Apr. 97: Software Engineer

Symvionics Inc., United States Air Force Flight Test Center, Edwards AFB, CA

IADS project was NT/UNIX (SGI Irix) parallel development of real-time loads/flutter flight test analysis system. User interface development using Win32 API and XWindows/Motif toolkits. Microsoft Visual C++ for NT development and standard UNIX tools (shell script, vi, make, grep, etc.) for SGI.

### **Computer Languages**

C#, Java, C++, C, JavaScript, HTML, Unix Shell Script, Windows PowerShell, R (Data Mining), Ada, Pascal, QBasic, FORTRAN

Languages Taught: C#, Java, ASP.NET MVC, C++, Pascal, QBasic

### **Platforms/Operating Systems**

Windows, SGI Irix, Sun Solaris, IBM AIX, various Linux (Debian, Ubuntu, Fedora, Mint, Kali, CentOS, RHEL), Mac OS X, OpenBSD, cisco IOS

### **Libraries and APIs**

.Net, Sun (now Oracle) Java SE, ME, and EE (Java Servlets, JSP, JDBC, RMI), JFC Swing, Win32 API, Microsoft MFC C++ Class Library, XWindows/Motif, OpenGL, YACL (Chapman Univ. C++ lib)

### **Servers, Databases, IDEs, and RAD Development and Virtualization Tools**

VMWare, VMWare Fusion, Oracle Virtual Box, Mac Bootcamp, NetBeans, Eclipse, Apache Tomcat, Sun JavaWebServer, iPlanet (Netscape) Enterprise Server, Microsoft Developer Studio, Rational Rose, RapidApp (SGI), FaceMaker (XWindows/Motif), Versata Studio, Oracle 8.1.x and 8i, IBM DB2, WebSphere, Tomcat, Microsoft SQL Server 2000, 2005, 2008

### **Citizenship**

Born June 29, 1958 in Pasadena, California. I am a United States citizen and held a Department of Defense secret level security clearance during my work at the United States Air Force Flight Test Center 1995-1999.

### **Professional Organizations and Affiliations**

Member of CTIN Computer Investigators, joined December 2012

Member of The HoneyNet Project, Pacific Northwest Chapter, joined March 2012

Member of ISSA, Puget Sound Chapter, joined September 2011

Member of InfraGard, Seattle Chapter, joined September 2011

Member of The Agora, joined August 2011

### **Professional Training and Conferences**

September 2014 – Training Camp, Dallas Texas, Cisco CCNA Routing and Switching, CCNA Security, and CCENT certifications. 3 certifications earned.

March 2013 – CTIN Conference, Computer Technology Investigators Network, Seatac, WA. Certificate earned.

February 2013 - CISSP Boot Camp and Exam from IP3, with Michael Hamilton, CISO, City of Seattle. Training Certificate Issued. CISSP Exam planned June 2013.

February 2013 – DHS ICS-CERT, Industrial Control Systems Cybersecurity 301 Advanced Training, Idaho National Laboratory, Idaho Falls, ID. Certificate Issued.

January 2013, and 2012 – National Science Foundation Scholarship for Service Cybersecurity Conference and Job Fair, Washington DC

December 2012 – BSides Seattle, sponsored by Microsoft, IOActive, others, Seattle, Washington

September 2012 – Emerald Down, sponsored by PNWER (Pacific Northwest Economic Region) Cyber Security Regional Response and Resiliency Seminar, Seattle Washington

July 2012 – DEFCON, Las Vegas, Nevada

April 2012 – Attended CISSP exam prep review (sponsored by ISSA, Puget Sound Chapter), Mercer Island, Washington (plan to take the exam Mar 1, 2013)

March 2012 – Served as White Team judge at PRCCDC, Pacific Rim Collegiate Cyber Defense Competition, Highline Community College, Washington

March 2012 – ICIW 2012, 7<sup>th</sup> International Conference on Information Warfare and Security, University of Washington Seattle

March 2012 – The HoneyNet Project Conference and Workshops, Palo Alto California  
Workshops attended: Introduction to HoneyNets and the Honeywall, David Watson

June 2006, 2005, and 1999 - JavaOne, Moscone Center, San Francisco, CA  
Sun's Worldwide Java Programming Conference & Training

Jan. 2001 – Versata University, Versata Inc., Oakland, CA  
Versata Studio 5.0 E-Business Automation System Training



Apr. 1997 - SmartSoft Internet Developer Training, Huntington Beach, CA  
Intermediate & Advanced Java Programming

Nov. 1996 - SIGS C++ World, Dallas, TX  
Object Oriented Programming Conference & Training

Feb. 1996 - Silicon Graphics Technical Education, On-site: Edwards AFB, CA  
Real Time Programming Course

Feb. 1996 - Silicon Graphics Technical Education, On-site: Edwards AFB, CA  
Parallel Programming Course

Jan. 1996 - Rational Software Corporation, On-site: Edwards AFB, CA  
Object Oriented Methodology Course