CHRISTOPHER E. DAVIS

OBJECTIVE

- A full-time management position in which I can use my computer science and leadership skills to conduct leading edge innovative research and development on cybersecurity and engineering challenges.

CORE COMPETENCIES

- Team and Project Leadership
- Mentorship and Education
- Network and Systems Security Assessment
- Red Team and Penetration Test
- Data Analysis

- Research and Development
- Artificial Intelligence
- Virtualization
- Software Engineering
- Test and Evaluation

TECHNICAL PROFICIENCIES

- Python, Java, C#, SQL, C, Bash
- VMWare, QEMU, Xen

- Linux, OS X, & Windows Administration
- Metasploit, Armitage, Cobalt Strike, Kali

SOFT SKILLS

- Communication (written & verbal)
- Planning and Strategic Thinking
- Analytical Thinking and Research

- Adaptability
- Creativity
- Quick Learner

EXPERIENCE

October 2009-Present   Sandia National Laboratories   Albuquerque, NM

Principal Member of Technical Staff, Principal Investigator, Program Manager

- On site representative and embedded researcher at United States Pacific Command (USPACOM). 2013-2016 resulting in the creation of: The Cyber War Innovation Center, USPACOM Persistent Cyber Oppositional Force, Cyber Protection Team (CPT) Fly Away Kits (defensive analyst servers, sensors, storage, and workstations), CPT training curricula and environments for mission rehearsals and training, and numerous technical and administrative improvements to USPACOM cyber posture.

- Led the USPACOM Supply Chain Risk Management pilot effort for the Department of Defense Chief Information Officer (CIO). Analyzed critical DoD systems and processes at USPACOM. Generated status report to the CIO's office and advocated for policy support.

- As one of the two Persistent Cyber OPFOR researchers at USPACOM, conceived, planned, and executed long duration Red Team engagements at USPACOM and Supporting commands. These engagements resulted in the more cyber security issues being resolved in one year than in the previous 5 years, architectural revisions, and an improved cyber hygiene culture.

- Started Director of Operational Test and Evaluation (DOT&E) Field Program resulting in two field researchers at Combatant Commands (COCOMs).

- Principal Investigator of all DOT&E projects at SNL 2009-2013 resulting in measurable improvement in operational test and cyber posture at COCOMs. Software and hardware R&D successes led to spin-off projects with new sponsors. Increased funding level 100 X.

- Started and led the CyberPatriot educational outreach program resulting in: 1000s of hours of community outreach support from Sandia National Laboratories (SNL), Air Force Research Lab, and University of New Mexico; dozens of computers being donated to

schools in need; a new STEM outlet within Albuquerque Public Schools; Albuquerque teams progressing to Nationals; and students enrolling in cyber security programs and becoming interns at SNL. The program is self-sustaining to this day.

- Started and led the SNL cyber exercise range support efforts resulting in SNL support to major DoD exercises (CyberFlag, CyberGuard, Terminal Fury, Pacific Sentry). SNL is now a leader in DoD exercise support as a result.

- Led the creation of the Emulab, a collaborative lab space for emulation analytics research and development. The Emulab space is now one of the two main labs used by the Computer Systems and Technologies Group and is currently simultaneously used by 6 project teams.

- Led the SNL Operational Red Team 2009-2013 and conducted dozens of red team assessments. Developed proof of concept cyber exploit tools to stress systems and operators. Improved security of DoD MAC I (vital to the operational readiness of deployed forces) systems.

- Proposer and Principal Investigator of CORONA, Sandia Albuquerque's first large emulation analytics program. Formed a three-way partnership between SNL, the Air Force, and the Missile and Space Intelligence Center. Implemented Live, Virtual, Constructive models using ESXi, Xen, Cisco appliances, and the University of Utah's Emulab. Led the creation of the DoD's cyber testbed reference architecture.

- Software development on Factotum agent based system in Java and Python. Implemented a multi-language contract based agent system for distributed and resilient computation.

May 2007 – October 2009   RESPEC Consulting   Albuquerque, NM
Lead Developer, Contractor to Sandia National Laboratories Cognitive Systems Research and Applications Group

- Led development team through full product lifecycle

- Designed and implemented STANLEY (Sandia Text ANaLysis Extensible librarY) Service Oriented Architecture in C#. Successfully delivered and supported releases with customer.

- Designed and implemented Outlook Licensing Support Network Real Time Assistant for Yucca Mountain Nuclear Repository, which later became the SNL Email Marking Assistant (used lab-wide). These C# Outlook plugins are marking assistants that aide users in correctly marking their emails per Federal guidance.

- Designed and implemented STANLEY refactor efforts resulting in 200x increase in text analysis performance. Transitioned text analysis library from SQLite to Lucene.

- Led implementation and adoption of software design practices and standards. Led SCRUM teams. Implemented bug tracking systems. Integrated CMMI processes into our core culture.

October 2005 – May 2007   RESPEC Consulting   Albuquerque, NM
Lead Developer, Contractor to Sandia National Laboratories Computational Economics Group

- Designed and implemented in Java the NISAC graph visualization package supporting 10s to 100,000s of nodes used by multiple teams to visualize flow of goods and money, chemical processes, spread of avian influenza, and transportation of sensitive cargo.

- Led team in analysis of economic networks in Java, Perl and Matlab. Supported analysis of economic fallout from hurricane Katrina resulting in reports to the White House.

- Coordinated visualization efforts across several groups within NISAC. Supported collaborative development across a fragmented software base.

- Led team in maintenance and upgrades to existing visualization tools in several languages.

CHRISTOPHER E. DAVIS

January 2005– October 2005   LANL, D-4   Los Alamos, NM
Staff, Graduate Researcher

- Designed and implemented neural architectures on GPUs in streaming library and shaders.
- Network intrusion detection projects in C and OpenGL.
- Critical infrastructure protection projects.
- Weapons non-proliferation projects.

January 2003 – December 2004   Visualization Lab, HPCERC UNM Albuquerque, NM
Research Assistant

- Designed and implemented an integral telehealth application in C and OpenGL.
- Motivated and organized programming efforts between University of Hawaii and University of New Mexico.
- Designed novel information visualization techniques.
- Developed and motivated important network intrusion applications for LANL.

EDUCATION

Fall 2005   University of New Mexico   Albuquerque, NM
- Master of Science in Computer Science focus Artificial Intelligence

Fall 2001   University of New Mexico   Albuquerque, NM
- Bachelor of Science in Computer Science, Minor in Studio Art

PUBLICATIONS

Several are available at: http://www.cs.unm.edu/~chris2d/php/publications.php

AWARDS

- 2017 Sandia National Laboratories Employee Recognition Award (ERA) winner
- 2015 Pacific Advanced Cyber Warfare Graduate
- 2014 USENIX CSET Panel
- 2013 Presidential Volunteer Service Award
- 2012 CyberPatriot Coach (3rd Place Nationals)
- 2012 Best Cyber M&S Project, 7th Annual Intelligence Community Tech Expo - Director of National Intelligence Headquarters
- 2012 Intelligence Community's Top 12 technology efforts
- 2012 Sandia National Laboratories ERA Nominee
- 2011 Sandia National Laboratories ERA Nominee
- YMP Lead Lab Certificate of Achievement 2008
- 2008 Sandia National Laboratories ERA Nominee
- 2007 Sandia National Laboratories ERA Nominee
- 2006 Sandia National Laboratories ERA Nominee
- 2005 LANL Mentor program participant