

Dr. Bryan Dixon

CONTACT INFORMATION

Associate Professor
Computer Science Department
California State University Chico

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RESEARCH INTERESTS

Detecting power hungry malicious code on smartphones: mobile security, security, mobile energy efficiency, computer science education, mobile development, web development, devops, computer systems, code optimization, operating systems and secure coding.

PROFESSIONAL EXPERIENCE

California State University - Chico, Chico, CA

Associate Professor

August 2019 - present

Assistant Professor

August 2013 - July 2019

Lawrence Livermore National Laboratory, Livermore, CA

Faculty Employee - HPC Cluster Engineering Academy

Summer 2017, 2018 & 2019

- Teaching students material related to how to build, configure, maintain, and use HPC computer clusters
- Mentoring student project team summer project

Seismic Sensor Project - California Mechatronics Center at CSU Chico, Chico, CA

Android App Consultant

August 2016 - May 2017

- Responsible for development of an Android App to display seismic sensor
- Worked with project team to create a mechanism to get sensor data to a central cloud server and then visualize that data on an Android App for quick analysis and real time information about sensors.

Dixon Associates Consulting Engineers, Raleigh, NC

IT Consultant

1994-present

- Responsible for answering management's questions related to anything IT related. Responsible for giving management good cost-benefit analysis of computers, web hosting, and other IT equipment needed. Help setup networking, website, and backup systems for the company. Spec computers for purchase or build new computers for company depending on timeline and budget.

EDUCATION

University of Colorado, Boulder, CO

Ph.D., Computer Science, May 2013

- Thesis Topic: *Exploring Low Profile Techniques for Malicious Code Detection on Smartphones*
- Adviser: Professor Shivakant Mishra
- Area of Study: Systems and Mobile Security

M.S., Computer Science, May 2012

North Carolina State University, Raleigh, NC

B.S., Computer Science, December 2007

B.S., Computer Engineering, December 2007

B.S., Computer Engineering, December 2007

CONFERENCE
PUBLICATIONS

- [1] Bryan Dixon. March 2020. Simplifying Teaching Continuous Integration and Continuous Deployment with Hands-on Application in a Web Development Course. In 13th annual Consortium for Computing Sciences in Colleges Southwest Regional Conference (CCSC:SW '20). ACM
- [2] Bryan Dixon. February 2017. Investigating Clustering Algorithm DBSCAN to Self Select Locations for Power Based Malicious Code Detection on Smartphones. In 3rd Conference On Mobile And Secure Services (MobiSecServ'17). IEEE
- [3] Bryan Dixon. March 2016. Code Isolation for Accurate Performance Scoring using Raspberry Pis. In 9th annual Consortium for Computing Sciences in Colleges Southwest Regional Conference (CCSC:SW '16). ACM
- [4] Bryan Dixon, Shivakant Mishra, and Jeannette Pepin. August 2014. Time and Location Power Based Malicious Code Detection Techniques for Smartphones. In Proceedings for Network Computing and Applications (NCA '14). IEEE
- [5] Bryan Dixon and Shivakant Mishra. July 2013. Power Based Malicious Code Detection Techniques for Smartphones. In Proceedings of Trust, Security and Privacy in Computing and Communications (TrustCom '13). IEEE
- [6] Bryan Dixon, Yifei Jiang, Abhishek Jaientilal, and Shivakant Mishra. October 2011. Location based power analysis to detect malicious code in smartphones. In Proceedings of the 1st ACM workshop on Security and privacy in smartphones and mobile devices (SPSM '11). ACM, New York, NY, USA, 27-32. DOI=10.1145/2046614.2046620 <http://doi.acm.org/10.1145/2046614.2046620>
- [7] Bryan Dixon and Shivakant Mishra. July 2010. On rootkit and malware detection in smartphones. In Proceedings of the 2010 International Conference on Dependable Systems and Networks Workshops (DSN-W) (DSNW '10). IEEE Computer Society, Washington, DC, USA, 162-163. DOI=10.1109/DSNW.2010.5542600 <http://dx.doi.org/10.1109/DSNW.2010.5542600>

PAPERS PENDING

- [8] Bryan Dixon. October 2021. Automating Configuring Parallel Compute Environments for Students. In Consortium for Computing Sciences in Colleges Midwest Regional Conference (CCSC:MW '21). ACM

PERSONAL
PROJECTS

CSCI551 Cluster Project

- Project from Student Learning Fees to be deployed for Fall 2021 semester
- Storage node and 60 embedded boards for use to teaching cluster programming in CSCI551 [Personal Website](#)
- Used to host all my course projects and materials through rendered markdown from git repos of the original assignments and code. Built in Python with Django.
- Uses GitHub and GitLab APIs to dynamically create repositories for my students in each class
- For my web course it deploys [starter code](#) that allows me to more easily teach Docker, CI/CD, and Kubernetes in the class.

[Jetson Cluster](#)

- Ansible Playbooks and instructions to assist students deploying a cluster of Nvidia Jetson Nano boards as a development platform for use in the parallel programming course I taught Fall 2019.
- Starting point for the CSCI551 cluster project and basis of paper being published this Fall.

AWARDS

Boy Scouts of America - Eagle Scout, May 2001
[Eta Kappa Nu](#)
[Upsilon Pi Epsilon](#)