

Ramadan Abdunabi

College of Business Colorado State University
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PROFESSIONAL PROFILE

Creative and resourceful lead educator with proven ability to enhance students' learning, offering over ten years of varied instructional experience, including teaching technical courses in computer information systems. Sound academic results demonstrate personal commitment towards growth. Demonstrate a positive and effective teaching style with the willingness to work beyond the call of duty. Has interest in working with students who have special learning needs. Active in academic services and play an integral part in departmental committees to improve course curriculum and enhance the students' job marketability. Cited by department chairs for my good-natured, cooperative approach, willingness to work hard, and strength as a contributor to effective multi-disciplinary teams. Enthusiastically apply contemporary computer-based technologies in education. Has research interests in improving software security for various design architectures and in the technology integration in hybrid teaching environment.

TERTIARY EDUCATION

Ph.D. Computer Science (GPA: 4.0/4) <i>Computer Science Department, Colorado State University, Fort Collins, Colorado, USA</i>	May 2013
Dissertation Title: <i>Computer Security: An Access Control Framework for Mobile Applications</i> Advisors: Indrakshi Ray, Robert France, Indrajit Ray, and Daniel Turk	
M.C.S. Computer Science (GPA: 4.0/4) <i>Computer Science Department, Colorado State University, Fort Collins, Colorado, USA</i>	January 2010
M.S. Computer Telecommunication (GPA: 3.6/4) <i>Computer Science and Electrical Engineering Department, University of Twente, Enscheda, Netherland</i>	January 2004
B.S. Computer Science and Information Systems (GPA: 85.3/100) <i>Computer Science Department, University of Benghazi, Benghazi, Libya</i>	May 1995

RELEVANT ACADEMIC COURSEWORK COMPLETED

Software Solutions: Object Oriented Design, Software Product and Process Evaluation, Software Specification and Design, and Advanced Topics in Software Engineering: Software Testing, Software Methodologies Waterfall and Agile

Network & Cyber Security: OSI & ICP/IP Network, Network Security, Cryptography, Access Control, Secure Authentication Protocols, and Advance Topics in Computer Security: Privacy

Data Analytics: Data Preparation for Business Analytics. Python Modules, Analytical Mindset,

Scrubbing and Transforming Data, Data Visualization,

Compilers: Introduction to Compilers, Compiler Construction (Optimization, Register Allocation, Interprocedural Analysis, Automatic Parallelization), Programming Models

Others: Algorithms and Theory of Computation, Operating Systems, Database Systems, Artificial Intelligence, Coding Theory, Graph Theory, Operating systems, Virtual machines (VMware and vSphere)

TEACHING EXPERIENCE

Clinical Professor

Aug 2016 ~ Present

Computer Information Systems Department, Colorado State University, Colorado, USA.

- Teach undergraduate and graduate technical CIS core courses (i.e., CIS240, CIS340, CIS310, CIS350, CIS611, 620, etc.) with multiple sections, both on-campus and distance.
- Contribute to research in computer information systems.
- Responsible for all aspects of course delivery, including syllabus production, lecturing, meeting with students, and assigning final grades. Manage multiple sections with other course, coordinating syllabi and grading standards accordingly.
- Responsible to working individually and in college committees to review and restructure courses development (i.e., CIS210, CIS606, CIS350, & CIS620) based on the department needs.
- Developed a new class CIS310 'Data Preparation for Business Analytics'
- Responsible for advising and supervising graduate student internships (CIS695.)
- Academic Adviser: Advise students of selecting a subject of research and point out resources of the literature discussions related to the researched subject. Provide weekly feedback on student progress and constructive criticism if progress does not meet expectations. Review the literature to ensure the novelty of the research work. Provide training and oversight in research rigor and theoretical and technical aspects of research. Read the thesis with care prior to the thesis defense, and give students constructive feedback on an early draft.

Adjunct Professor

Aug 2015 ~ July 2016

Computer Information Systems Department, Colorado State University, Colorado, USA.

- Taught a CIS 611 graduate level course for on-campus and distance sections in the College of Business. Involved in a research responsibilities of measuring decision uncertainty.

Instructional Coordinator

Jan 2014 ~ June 2015

Computer Information Systems Department, Colorado State University, Colorado, USA.

- Provided Instructional Coordinator services for six graduate courses (i.e., CIS570, CIS575, CIS611, CIS605, CIS620, and CIS665.)
- Assisted CIS graduate students with mastery in concepts of modeling and programing skills to create reliable systems using the following: Object Oriented Design on Java, Networking and Virtual Machines, Visual Application Development, SQL Database Systems, Data Mining, Business Intelligence, and Computer Security.

Graduate Teaching Assistant

Jan 2011 ~ May 2013

Computer Science Department, Colorado State University, Colorado USA.

- Provided teaching assistant for Compiler Construction (CS453), System Security (CS356), Computer Security (CS556), and Distance Learning Computer Security (DLCS556) courses.
- Co-ordinated presentations and demonstrations as part of the teaching curriculum.
- Used interactive Blackboard Online Learning System, RamCT, to facilitate the activities of distance students who are enrolled in the graduate/undergraduate Computer Science or Applied Computing Technology programs, clarify course material, and grade student submissions.
- Delivered lectures as required by the course instructor.
- Worked weekly in the lab with students to complete projects, including designing and understanding experiments that illustrate and validate class concepts.
- Provided prompt responses to student's questions via email and during office hours.
- Helped setup equipment and diagnose complexes.
- Full responsibility for grading assignments, quizzes, term projects, term papers, midterm exams, and final exams.

Associate Lecturer

Aug 2004 ~ July 2007

Computer Science Department, University of Benghazi, Benghazi, Libya.

- Taught several courses in the Computer Science department: Computer Networks, Database Systems, Software Engineering, Object Oriented (Java), Data Mining, Computer Security, Data Structure (C++/Java) Programming, Computer Compiler, and Computer Organization.
- Acted as advisor/co-advisor for students' undergraduate projects.
- Prepared new curriculum and teaching methodologies for some courses.
- Facilitated student learning and conducted research in the area of computer networking and software engineering.
- Supervised teacher assistant members in monitoring the computer lab and also in giving tutorials.
- Assisted in the coordination and implementation of community service and student affairs activities.
- Assisted course tutors in the preparation of lessons for individual tutoring sessions.
- Coordinated special outreach projects to promote the department's research interest.
- Developed and implemented programs to encourage student participation.
- Participated in leadership training and community building workshops.
- Collected field data, drafted reports, and provided feedback to the department board.

Teaching Assistant and Lab Instructor

May 1997 ~ Feb 2001

Computer Science Department, University of Benghazi, Benghazi, Libya.

- Delivered tutorials to assist students understanding materials for several courses: Data Structure, Software engineering, Compiler, Networking, and Database Systems.
- Regularly attended lab hours to help students complete their assignments and projects.
- Network administration and technical support.
- New instructional labs setup and preparation.
- Prepared/modified labs manuals.
- Taught lab experiments and different theoretical tutorials for undergraduate students.
- Supervised graduation projects for undergraduate students; hardware and software design.
- Managed some maintenance contracts and equipment specifications.

HIGHLIGHTS of TEACHING ACTIVITIES

- Teaching a variety of undergraduate and graduate CIS courses with multiple sections for on-campus and online students including the following: Computer networking, OO Design and Programming and Design, Computer Security, Database, Data Analytics, Software Methodology, Operating Systems with Virtual Machines (VMware vSphere), Software Testing with Junit, Web Development, etc.
- Constructed syllabus and material for CIS courses to achieve enhanced learning.
- Initiated relevant changes to instructional plans and activities in order to meet industrial needs and improve the job marketability for students.
- Exceeded teaching expectation evaluation by the College of Business, Colorado State University for the past three years.
- Supervised graduate CIS students to practice real-world projects during their internship training.
- Experienced with delivering instructions using blended learning, a combination of face-to-face instructions with asynchronous and/or synchronous computer technology.
- Consistently achieve exceptional student evaluations regarding instructional quality and effective learning outcomes.
- Initiated, organized, and implemented instructional strategies to adapt the learning environment so that students feel encouraged to fulfill their academic potential.
- Researched and applied a variety of learning materials, resources, and technology methods (such as Internet-learning, Canvas and RamCT learning management systems, team learning, iClicker, utilizing network resources) to support and develop the classroom environment.
- Planned and implemented remedial programs for students requiring special assistance, such as Resource Disability Students RDS.

- Planned, prepared and delivered instructional activities that create an environment where students are actively engaged in the learning experience.
- Identified and adapted teaching resources in order to meet the varying needs of students with different learning abilities, learning agilities, and special education needs.
- Offered plans for enhancement in which students are encouraged to be engaged in the learning process, in/ out classrooms
- Maintained an accurate teaching record and monitored learning performance to provide feedback on progress.
- Advised and monitored students in the use of new learning materials and teaching equipment.
- Communicated cooperatively with peers, colleagues, and students to meet teaching goals and ethical standards.
- Participated in training programs and educational courses to keep up to date with new teaching methods, new developments, and teaching resources.
- Applied appropriate disciplinary measures when necessary.
- Deployed Azure Lab Services for students where they have their own virtual computers with all needed software to continue learning.
- Improved teaching IT Infrastructure and Operating System topics in CIS courses (CIS350 & CIS620) through the use of a public cloud, Microsoft Azure for resource virtualizations.
- Integrated PlayPosit (interactive web-based video platform) technology into the lecture videos of to increase lectures' engagement and obtain formative assessment (responses) of students' progress.
- Combined a programming interactive (and adoptive) web-native textbook, "zyBooks", into CIS courses as a supplemental technology to book chapters provided in the traditional (static) textbook.

ADMINISTRATIVE EXPERIENCE

Interim Department Chair

July 2006 ~ June 2007

Software Engineering Department, College of Information Technology, University of Benghazi, Benghazi, Libya.

- I was responsible for implementing College policies and rules within the department.
- Provided leadership toward the achievement of the highest possible level of excellence in the teaching and service activities of the department.
- Served on various committees throughout the college.
- Communicated departmental needs and desires to the Dean and Provost
- Communicated and interpreted College and University decisions to the faculty
- Encouraged the development and improvement of the departmental curriculum, and seeing that the proper curriculum forms are submitted on schedule
- Supervised the departmental budget, record keeping, and the requisition of supplies, equipment, materials, and other instructional needs
- Developed and followed procedures to assign faculty to classes, laboratories, studios, and other responsibilities
- Coordinated and supervised the departmental programs, reviews, accreditation and departmental evaluations, and other reviews

IT Project Manager

Dec 1999 ~ Feb 2001

Ministry of Finance Benghazi, Libya.

- Manage teams of software engineers for the design, analysis, coding and integration for a payroll system serving over 60,000 employees for 22 government organizations.
- Led a team of programmers and test engineers to organize tasks and resolve challenges.
- Managed databases systems' administrators (DBAs) to address growing software needs and integrations.
- Defined the project's scope and determine available resources
- I was responsible to set time estimates and evaluate the teams' capabilities

- Developed clear, straightforward plans that stimulate the software engineers to reach their full potential
- Responsible to cut down on bureaucracy and steer the engineers down a clear path to the final goal
- Identified realistic deadlines and communicate them consistently to the teams
- Responsible to plan and keep a project within its set budget
- Constantly reviewed the budget and plan ahead to avoid massive budget overruns
- Identified and evaluate potential risks before the project begins and set policies to avoid risks or at least minimize their impact
- Monitored and analyze both expenditures and team performance and to always efficiently take corrective measures
- Presented comprehensive reports documenting that all project requirements were fulfilled, as well as the projects' progress, including what was done, who was involved, and what could be done better in the future.

PROFESSIONAL EXPERIENCE

Doctorate Research Associate **May 2014 ~ May 2015**
Computer Information Systems Department, Colorado State University, Colorado USA.

- Worked on a team of Physiology/Business researchers to build an adaptive supervisory control tool using the Java programming language, which perceives human reactions and interactions to random and planned events for the purpose of measuring uncertainty in decision making.

Android Mobile Application Designer and Developer **Jan 2012 ~ July 2012**
Computer Science Department, Colorado State University, Colorado USA.

- Developed an Android application for a secure software architecture enforcing spatiotemporal access control policies.
- The application implements a distributed system with multiple autonomous Java servers connected to MySQL database servers. The clients and servers are implemented using Android SDK plug-in of Eclipse.

Community Coordinator for Apartment-Life **May 2011 ~ May 2013**
Colorado State University, University Apartments, Fort Collins, Colorado, USA.

- Organized social, cultural, educational, spiritual, and exercise programs.
- Assisted residents to accommodate and resolve residents' issues and conflicts.
- Actively participated in planning and staff development.
- On a daily basis, checked mailboxes, voicemail, e-mail, and bulletin boards for notices and deliveries.
- Oversaw committees for the achievement of large-scale programs for student organizations.
- Enhanced the resident/staff interaction via emails.
- Maintained knowledge and support of policies and responded to any policy violation.
- Planned, implemented, and evaluated a variety of programs for all residents.
- Encouraged staff members and residents to participate in numerous service-oriented programs including men's and women's clubs.
- Collected and promptly distributed materials as needed.
- Participated in all staff training sessions and workshops.

Doctorate Research Assistant **Jan 2009 ~ Jan 2010**
Computer Science Department Colorado State University, Fort Collins, Colorado, USA.

- Worked on various fields of research in mobile access control security for mobile applications.
- Developed software prototypes, ran experiments, and analyzed data.
- Formally modeled and verified the security policies of pervasive computing systems via interactive software toolboxes.

- Developed approaches for improving data security and control flow of mobile business process in workflow systems.

Outreach member for the Council of International Students Affairs Aug 2009 ~ Dec 2010
Colorado State University, Fort Collins, Colorado, USA.

- Promoted COISA and created a network with other groups/organizations on CSU campus and in the Fort Collins community.
- Proposed and collaborated on key projects in conjunction with the COISA office over the year to make a difference regarding diversity issues on CSU campus.

.Net Developer April 2004 ~ Dec 2005
Man-Made River Company, Benghazi, Libya

- Contributed to the design and analysis of a system for Web-based billing and purchase of fresh water. Wrote the code using .NET Framework based on VB.NET, and database design and implementation using SQL server.

Database System Training Jan 2005
Computer Information Systems Department, Tarq Company for Information Technology, Benghazi, Libya

- Completed a training course on Oracle and PL/SQL concentrating on banking information systems.

Team Lead of Software Developers Jan 1996 ~ Dec 1999
Ministry of Finance Benghazi, Libya.

- Completed design, analysis, and coding for a payroll system serving about 60,000 employees for 22 government organizations.
- Led a team of programmers and test engineers to organize tasks and resolve challenges.
- Managed databases system to address growing software needs.

Software Developer March 1995 ~ Jan 1998
HealthCare Management System ABN-Sena Hospital Benghazi, Libya.

- Participated in programming and writing test cases for a software system supporting the services in the hospital.
- Set up a local area network and determined the countermeasures that mitigate the common attacks on the software system.

Software Engineer Jan 1995 ~ July 1997
Waha IT Company, Benghazi, Libya.

- Worked as software engineer in designing and developing many projects such as a sales system, patient recording system, traveling agent systems, and parking garage systems, etc.

PROJECTS

- Built a simulation tool using Java for measuring human uncertainty about making the proper decisions, Computer Information Systems, College of Business, Colorado State University.
- The performance of Internet-Based Class Room System – Monitor & Control of Course Education at Benghazi University.
- The development of access control models and platform-independent implementation architectures for mobile applications.
- Measuring the efficiency of mobile access control models to distributed resources of Android applications.
- Member of team for developing website information system For Faculty of Information Technology at Benghazi University.
- Online Fresh-Water Marking System for Man-Mad River Company in Libya.
- Complete & Fully Interactive Websites:
 - Online Services for Undergraduate Students in Benghazi University.
 - Online Course Registration and Grading System in Benghazi University for Information Technology College

COMPUTER PROFICIENCY

- **Languages:** C, C++, C#, COBOL, Pascal, Java, Python, XML, Android
- **Systems and Compilers:** Windows, Unix(IBM AIX Certification), Linux Series, MeggyJava
- **Web development:** HTML, VB.Net, ASP.Net, MVC, n-tier, nHibernate, LINQ, JQuery, JavaScript, CSS, Unit Tests, PHP
- **Reports:** Grape City Active Reports
- **Database tools:** MySQL Database, Microsoft SQL Server, Oracle Databases: SQL, PL/SQL, NoSQL, MongoDB
- **ColdFusion** using Eclipse
- **Scripting:** Bash and PowerShell
- **Multimedia:** Photoshop, Flash MX
- **Mobile App Development:** Android, Objective-C, Swift, React Native,
- **Software Development Environments:** Dreamweaver, Eclipse, Microsoft Visual Studio, Springs, JUnit Netbeans, Java RMI, Android SDK, MuJava
- **Formal Specification Languages:** UML/OCL, Alloy, Z, Colored Petri Nets, Timed Automata
- **Formal Methods Tools/Modeling Checkers:** USE, ALOCA, Z-EVES, UPPAL, CPN, SPN, Microsoft Visio
- **Document Formatting:** Latex, Microsoft Word

RESEARCH INTERESTS

My research interests focus on developing cyber security methods that can assist in improving access control in mobile environments. My research provided an access control framework that allows one to specify, verify, and enforce fine-grained spatio-temporal policies. Our access control models have been investigated for secure access control and reliable workflows for real-world applications. My other research direction spans the areas related to the integration of education technology to enhance students' learning needs. My research investigated factors that may affect the success of students in learning to program and evaluated issues related to the technology competency from educators' perspectives.

PUBLICATIONS

- Hbaci, I., Ku, HY. & Abdunabi, R. Evaluating higher education educators' computer technology competencies in Libya. *J Comput High Educ* (2020).
- Abdunabi, Ramadan, Ilham Hbaci, and Heng-Yu Ku. "Towards Enhancing Programming Self-Efficacy Perceptions among Undergraduate Information Systems Students." *Journal of Information Technology Education: Research* 18 (2019): 185-206.
- Indrakshi Ray, Ramadan Abdunabi, and Rejina Basnet. "Access Control for Internet of Things Applications." In Proceedings of the 5th on Cyber-Physical System Security Workshop, pp. 35-36. ACM, 2019.
- Rejina Basnet, Ramadan Abdunabi, and Indrakshi Ray (2018). An Extended Attribute Based Access Control for WorkFlows (pp. 1): Rocky Mountain Celebration of Women in Computing (RMCWiC).
- Ramadan Abdunabi and Yashwant Malaiya (2017). *The Impact of Test Case Prioritization on Test Coverage versus Defects Found*. International Conference on Software Engineering Research and Practice (SERP'17), July 2017. (Acceptance Ratio 24%).
- Ramadan Abdunabi, Wuliang Sun, and Indrakshi Ray (2014). *Enforcing Spatio-Temporal Access Control in Mobile Applications*. *Computing Journal*, 96(4), 313-353.

- Mustafa Al-Lail, Ramadan Abdunabi, Robert France, and Indrakshi Ray (2014). *Rigorous Analysis of Temporal Access Control Properties in Mobile Systems*. ICECCS, Singapore, July 2014. (Acceptance Ratio 38/102).
- Ramadan Abdunabi, Indrakshi Ray, and Robert France (2013). *Specification and Analysis of Access Control Policies for Mobile Applications*. In SACMAT, 2013. (Acceptance Ratio 19/62).
- Ramadan Abdunabi, Mustafa Al-Lail, Indrakshi Ray and Robert France (2013). *Specification, Validation, and Enforcement of a Generalized Spatio-Temporal Role-Based Access Control Model*, IEEE Systems Journal, 7(3), 501–515. (Acceptance Ratio 28/123).
- Mustafa Al-Lail, Ramadan Abdunabi, Robert France, Indrakshi Ray, and F. Boulanger (2013). *An Approach to Analyzing Temporal Properties in UML Class Models*. In MoDeVVA@MoDELS (pp. 77-86).
- Mustafa Al-Lail and Ramadan Abdunabi (2012). *Validation of Temporal Properties in Spatio-Temporal Role-Based Access Control Systems*. CyberSecurity for the Next Generation Conference, New York, USA, November 15–17 2012.
- Ramadan Abdunabi and Indrajit Ray (2010). *Extensions to the Role Based Access Control Model for Newer Computing Paradigms*. Proceedings of the 2nd Annual CCWIC, Golden, Colorado, USA, November 4–5, 2010.
- Ramadan Abdunabi and Indrakshi Ray (2010). *A Comparison of Security Analysis Techniques for RBAC Models*. Proceedings of the 2nd Annual CCWIC, Golden, Colorado, USA, November 4–5, 2010.
- Manachai Toahchoodee, Ramadan Abdunabi, Indrakshi Ray and Indrajit Ray (2009). *A Trust-Based Access Control Model for Pervasive Computing Systems*. Proceedings of the 23rd Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), Montreal, Canada, July 2009. (Acceptance ratio 23/41).
- **Research In Progress, In Preparation; Not Yet Submitted:** **2017 ~ Present**
 - Using Programming Interactive Textbooks for Improving Information Systems Students Performance
 - Spatio-Temporal Attribute Based Access Control for Health Care: Body Area Network
 - A Next Generation of Job Authorization Systems for Cloud-Mobile Based Workflows
 - An Extended Attribute Based Access Control for WorkFlows
 - Towards Enhancing Programming Self-Efficacy Perceptions among Undergraduate Information Systems Students

CITATION COUNTS

- Google Scholar: 139 (as of June 1, 2020)

CONFERENCES/Journal SUBMISSION REVIEW

- SACMAT'19
- Computer Standards & Interfaces Journal

PERSONAL ATTRIBUTES* (*Drawn from performance appraisals)

- Significant teaching and curriculum development ability
- Effectively supports and responds to students
- Uses multimedia and games in education appropriately
- Establishes technical support and assistance in computer labs
- Facilitates environmental learning
- Motivates students in the field of computer science
- Actively participates in campus community development
- Well-developed global perspective of various instructional methods
- Quickly establishes rapport with students and staff
- Demonstrates strong collaboration and team leadership skills
- Comfortable with team or individual efforts
- Exceptional written and verbal communication skills
- Contributes to software modeling and analysis research
- Sound technical and functional capabilities
- Experienced with software development and testing
- Demonstrates scientific research critique and contribution capabilities
- Exercises outstanding computer systems administration skills
- Demonstrates capacity to exercise initiative and accept challenges
- Sound analytical and problem-solving skills
- Experienced with software administration, maintenance, and enhancement
- Well-developed time management skills
- Ability to juggle conflicting tasks
- Sensitive to cultural norms and values
- Passionate team member
- Demonstrates high levels of commitment and a strong work ethic
- Well-informed of new computer literacy tools

HONORS, RECOGNITIONS, AWARDS

- Exceeded Teaching Expectations 4.83/5
College of Business, Colorado State University **2016-2019**
- Golden Key International Honor Society **2013**
- Member of Upsilon Pi Epsilon **2010**
- Outstanding GPA (4.00) for a Ph.D. Student
Colorado State University **2010**
- Highest Graduate Student GPA (4.00) for M.S.C students
Computer Science Department, Colorado State University **2009**
- *Libyan Ministry of Higher Education Scholarship*
For doctoral studies in computer science in the USA **2007**
- Best Teaching Assistant Scholarship Award
University of Benghazi
To complete Master of Computer Science studies in Europe, **1998**
- Second place Graduation Award (GPA), B.S. in computer science
University of Benghazi **1995**