Brandon Earwood

EDUCATION

M.S., Computer Science, Texas A&M University-Kingsville, 2016
Graduated Summa Cum Laude 3.9
Dissertation: "Effectiveness of Static and Dynamic Visualizations in Computer Science Education"
Dissertation Advisor: Dr. Lee

B.S., Computer Science, Texas A&M University-Kingsville, 2015
Graduated Summa Cum Laude 3.12 (4.0 at Texas A&M University-Kingsville)
Minor in Security Engineering

CURRENT RESEARCH

Current research has been in improving the quality of pedagogical tools and techniques related to computer science. In particular, greater emphasis has been placed on security concerns in fundamental computer science courses. Research considerations are the integration of security modules into programming fundamentals courses along with model-eliciting activities as course projects. Research goals are focused on improved student retention and understanding as well as shifting instructor's views to more student-centered paradigms.

TEACHING EXPERIENCE

Teaching Assistant, Texas A&M University-Kingsville, 2014-2016

- Object-Oriented Software Engineering
    - Graded exams and weekly programming assignments
    - Tutored for programming assignments
- Data Structures and Algorithms
    - Graded programming projects
    - Tutored for programming projects
- Introduction to Computer Basic and Excel
    - Graded weekly programming assignments
    - Tutored for programming assignments
- Microprocessor Systems
    - Instructed course lab
    - Graded lab reports
- Physics Mentoring
    - Tutored students for University Physics I

Student Assistant, HM King High, 2015-2016

- University Interscholastic League (UIL) Computer Science
    - Volunteer work teaching students UIL computer science material
    - Prepared students for UIL competitions

ADDITIONAL WORK EXPERIENCE

Operator, TTElectronics, 2018-Present

- Operate and troubleshoot multiple Tokyo Weld taping machines
- Package precision thin film chip (PFC) resistors

Mobile Developer, Sqooasha, 2018

- Developed web application through AWS for children studying math
- Developed mobile application for iOS and Android using Cordova
- Temporarily worked on mobile game for Sqooasha in Unity

Mobile App Development Research Assistant, Touchberry Inc., 2016

- Developed iOS application for Geiger counter
- Required knowledge of Swift and BASIC

IT Planning Intern, Corpus Christi Army Depot, 2015

- Completed certificates of networthiness to confirm software adheres to security protocols
- Communicated with other departments and industries for documentation

HONORS AND AWARDS

M.S., **Computer Science, Texas A&M University-Kingsville, 2016**
Graduated Summa Cum Laude

B.S., Computer Science, Texas A&M University-Kingsville, 2015
Graduated Summa Cum Laude

Security Engineering Scholarship

Dean's List, Texas A&M University-Kingsville, 2012-2016

PUBLICATIONS

J. Yang, Y. R. Kim and B. Earwood, "A Study of Effectiveness and Problem Solving on Security Concepts with Model-Eliciting Activities," 2022 IEEE Frontiers in Education Conference (FIE), Uppsala, Sweden, 2022, DOI: 10.1109/FIE56618.2022.9962412.

B. Earwood, J. Yang and Y. R. Kim, "Effective Learning of Cybersecurity Concepts with Model-Eliciting Activities," *2021 IEEE International Conference on Engineering, Technology & Education (TALE)*, 2021, DOI: 10.1109/TALE52509.2021.9678713.

J. Yang, B. Earwood, Y. Kim, and A. Lodgher, "Implementation of Security Modules with Model-Eliciting Activities in Computer Science Courses," 2020 ASEE (American Society for

Engineering Education) Annual Conference Proceeding, DOI: 10.18260/1-2—34776.

Brandon Earwood, Jeong Yang, Young Lee, “Impact of Static and Dynamic Visualization in Improving Object-Oriented Programming Concepts,” IEEE Frontiers in Education (FIE), October 22, 2016, Erie, PA.

Jeong Yang, Young Lee, David Hicks, and Brandon Earwood, “Virtual Mentoring System for Enhancing Student Programmer's Coding and Reasoning Skills,” 8th Annual Mentoring Conference Proceedings: New Perspectives in Mentoring: A Quest for Leadership Excellence & Innovation, Albuquerque, NM: University of New Mexico, October 20-23, 2015.

Brandon Earwood, “Effectiveness of Static and Dynamic Visualizations in Computer Science Education,” M.S. thesis, Texas A&M University-Kingsville, Kingsville, TX, 2016.

CONFERENCE PRESENTATIONS

"A Study of Effectiveness and Problem Solving on Security Concepts with Model-Eliciting Activities," 2022 IEEE Frontiers in Education Conference (FIE), Uppsala, Sweden, 2022.

"Effective Learning of Cybersecurity Concepts with Model-Eliciting Activities," *2021 IEEE International Conference on Engineering, Technology & Education (TALE),* 2021.

“Impact of Static and Dynamic Visualization in Improving Object-Oriented Programming Concepts,” IEEE Frontiers in Education (FIE), October 22, 2016, Erie, PA.

PROFESSIONAL SERVICE

President, Association for Computing Machinery (ACM) TAMU-Kingsville Student Chapter, 2014-2015
Student Advisor, Collegiate Cyber Defense Competition (CCDC), 2015-2016

SKILLS AND TOOLS

Programming Languages

- C/C++
- C#
- Python
- Java
- HTML/CSS/JS
- PHP
- SQL
- Swift
- Assembly

Operating Systems

- Mac OS
- Linux
- iOS
- Android

- Windows

IDEs and Editors

- Sublime
- XCode
- Android Studio
- Netbeans
- Eclipse
- IntelliJ