

BEN DIEKHOFF, MS_c

EDUCATION

Midwestern State University, Wichita Falls, Texas

- Master's Degree, Computer Science and Engineering 2021

Midwestern State University, Wichita Falls, Texas

- Bachelor's Degree, Business Administration- Marketing 2010

PROFESSIONAL EXPERIENCE

Ball State University, Muncie, Indiana

August 2023 - Present

Computer Science Assistant Lecturer:

- *CS 121: Data Structures and Object-Oriented Programming (and Lab)*
Continuation of Computer Science 1. Strong emphasis on object-oriented paradigm and related problem-solving skills. Topics include recursion, dynamic data structures and related algorithms, efficient sorting and searching, file processing, and reusing standard libraries and packages in chosen object-oriented environment.
- *CS 602: Discrete Structures and Algorithms*
The basics of discrete structures and algorithms such as relations, functions, basic logic, combinatorial techniques, sorting, and searching. Regular languages and Finite State Automata.
- *CS 124: Discrete Structures*
Introduction to topics in discrete structures for computer science majors. Topics include propositional and predicate logic, sets, induction, recursion, functions, combinations, permutations, and Boolean algebra. Applications of these topics to computer science are discussed.
- *CS 224: Design and Analysis of Algorithms*
Introduction to algorithm analysis, including probabilistic, geometric, combinatorial, and graph algorithms.
- *CS 200: Computers and Society*
Introduction to the relationship between computers, the Internet, and the laws regulating them, including the U.S. Constitution, intellectual property law, fair use, and privacy rights. Encryption technologies and their application to privacy, authentication, and digital rights management are central to these issues. Course includes significant reading and writing assignments.
- *CS 203: Intro to Computer Security*
Introduction to cyber security, personal computing security, threats and vulnerabilities, network security, operating system security, cyber-attacks, information architecture, firewalls, virtual private networks, intrusion detection, authentication and user security.
- *CS 617: Intro to Programming*
Introduction to programming in a contemporary, mainstream, high-level programming language such as Python. Use of numeric and textual data. Use of data structures such as arrays, lists, sets, and dictionaries/maps such as those implemented by hash tables.

Anderson University, Anderson, Indiana

August 2022 – August 2023

Computer Science Assistant Professor:

- *CPSC 2080: Intro to Cybersecurity*

This course provides an introduction to the fundamental concepts behind cybersecurity, basic security design principles, threats present in the cyber realm, ethical issues in cybersecurity, and an introduction to secure networking.

- *CPSC 2500: Data Structures and Algorithms*

In-depth study of data structures and algorithms, including stacks, queues, and trees through the use of abstract data types to facilitate problem solving. Searching and sorting techniques will be applied to appropriate data structures.

- *CPSC 3380: Applied Cryptography*

Covers topics in applied cryptography (symmetric and asymmetric), public key infrastructure, trust, password security, advanced authentication mechanisms, authorization techniques, physical security, and cloud computing. This course covers the technical skills necessary to understand security vulnerabilities in software as well as established strategies for mitigation. The current state of network, web, and computer security is also discussed.

- *CPSC 4480: Cybersecurity Certification*

Self-study course for a cybersecurity certification exam using prior course experiences and online resources. Eligible certification exams include CompTIA Security+ and EC-Council Certified Ethical Hacker.

- *CPSC 3520: Intro to Artificial Intelligence*

This course introduces a range of topics in artificial intelligence including classical search algorithms, knowledge bases and logical inference, Bayesian networks and statistical inference, and machine learning. Emphasis is given to applications of these techniques. Many of the algorithms discussed throughout the course are implemented in multiple larger projects.

- *CPSC 4080: Network Security*

This class discusses the concepts used in designing a secure network, defending a network, and a familiarity with the tools and techniques that can be used to protect a network from cyber threats. Issues in network forensics are addressed. Packet capturing and logging are practiced to diagnose real-world network and security issues.

Midwestern State University, Wichita Falls, Texas

January 2022 - May 2022

Computer Science Adjunct Professor:

- *CMPS 2084: Computer Architecture*

This course is an introduction to the components, functions, and logical relationships of digital computer components, including the central processing unit, different levels of memory, control signals, bus systems, data channels, input/output devices, instruction set architecture and assembly programming language. Also discussed are memory addressing techniques, data representation and more advanced topics as pipelined, superscalar, and RISC processors.

- *CMPS 3663: Introduction to Cyber Security*

This course is selected topics from computer and network security, including applications and operating system vulnerabilities, cryptography, computer forensics, web application weaknesses, malicious code attacks, intrusion detection, data protection, cyber warfare, user authentication, defensive programming, and ethical hacking.

Midwestern State University, Wichita Falls, Texas

May 2021 – September 2021

Contract Program Analyst:

- Assisted the General Counsel's office in a policy software implementation project. Responsible for upgrading and evaluating the existing system and integrating the necessary requirements the clients requested.

Graduate Teaching Assistant, Computer Science:

- *CMPS 1044: Computer Science I Lab*, Head Teaching Assistant

This course is an introduction to methods of problem solving and algorithm development. A high-level programming language is taught with an emphasis on program design, coding, debugging, testing, and documentation.

- *CMPS 1063: Computer Science II*, Substitute Lecturer

Taught lectures on recursion and C++ as a substitute. Demonstrated problem solving and different methods in approaching problems.

Wichita Falls Area Food Bank, Wichita Falls, Texas

February 2011 – July 2018

Child Nutrition Service Manager:

- Responsible for developing and deploying workflow and feeding sites' training. Ensuring compliance with state government regulations. Formulated a system to source inventory and served informally as IT support.

GRADUATE STUDENT RESEARCH PROJECTS

- **IN-Noventory** (Web Application)

Collaborated on a team using Agile methods to create a simulated online shopping and inventory management application for desktop and mobile devices. Used Kivy, PyQt, and MongoDB in the development of software that supported buyer and seller interface and mirrored a real-world software development process.

- **ESL Scraper** (Web Application)

Developed a python program that ethically scraped data from 485 unique URLs of a website as a means of providing source data needed for a class project.

- **CNN Research Tutorial (Linux, Mac OS AND Windows users)**

Collaborated on a Team of two to design a step-by-step guide for three CNN experiments in image recognition. This was designed to be understandable by individuals with no previous neural network experience and with different operating systems.

- **HCI Factors Impacting Widespread Adoption of Virtual Reality**

Collaborated on a Team to research how Human Computer Interaction factors, such as cyber -sickness, user input control, and social interactions, could impact virtual reality adoption and growth. We suggested future virtual reality applications more accessible from a human computer interaction standpoint.

PROGRAMMING LANGUAGES AND TECHNICAL SKILLS

- **Programming Language:** Python, ARM Assembly, C, C++, JavaScript, Java.
- **Other Technologies:** Git, Bash, GitHub, Visual Studio, HTML5, JQuery, MongoDB, MySQL, CSS, NetLogo, TensorFlow, Matplotlib, Jupyter.
- **Frameworks:** Node.js,
- Facilitated classroom Agile Scrum teams in multiple courses.

PROFESSIONAL ORGANIZATIONS, CERTIFICATIONS, AND CONFERENCES

- Member of Upsilon Pi Epsilon
- Tom C. White Scholarship (2019- 2021)
- Graduate Merit Scholarship (2018 – 2021)
- Member of Association for Computing Machinery (ACM)
- North Texas Area Student Conference co-author (Factors Limiting the Widespread Adoption of VR)

COMMUNITY SERVICE AND OUTREACH

- Volunteer at UGROW to be a mentor to undergraduate research.
- Volunteer in setting up for the induction ceremony for Upsilon Pi Epsilon.