David Berdik

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Employment

VISITING INSTRUCTOR | DUQUESNE UNIVERSITY **AUG. 2023 – AUG. 2025**

I am currently sharing my love of academics with students at my alma mater by teaching various Computer Science courses at the undergraduate and graduate levels. This involves:

- Creating new teaching materials and adapting existing teaching materials to make learning more fun and easier to understand
- Ensuring a fair environment for students by monitoring for academic integrity violations and taking action when a violation is identified
- Collaborating with department leaders to ensure the quality and relevance of my course materials
- I have taught the following undergraduate courses: Discrete Mathematics, Computer Programming: Java, Data Structures in Java, Computer Organization and Assembly Language
- I have taught the following graduate courses: Computer Architecture, Networks, Security, Intro to Computer Systems, Software Engineering

SOFTWARE ENGINEER | AMAZON **MAR. 2022 – JUN. 2023**

As a software engineer at Amazon, I contributed to the development of Cognito—a member of the AWS family of products. Cognito provides AWS customers with APIs that simplify the implementation of identity and access control mechanisms in their products.

- Worked with other software engineers to write Java and Ruby to add new features and fix bugs in AWS Cognito
- Reduced latency of various Cognito API calls by up to 50% without introducing API-breaking changes
- Contributed to adding support for cross-region replication for Cognito User Pools
- Participated in a call rotation to address high-priority issues that could negatively impact customers
- Provided actionable feedback on experimental hardware and software for Amazon's Alexa, Ring, and Halo products by serving as a beta tester

SOFTWARE ENGINEER | GENERAL DYNAMICS MISSION SYSTEMS **JAN. 2020 – MAR. 2022**

As a software engineer at General Dynamics, I contributed to building a cloud agnostic platform that can host services designed to run in a highly secure and air-gapped environment as well as an application to track relationships between various organizations and entities by using a graph-structured database.

- Contributed code written in Java, Terraform, Terragrunt, Ansible, and Python
- Improved application response time by 50% by optimizing code to remove repeated work
- Aided in tripling development team size by conducting interviews and onboarding newly hired team members

TUTOR (COMPUTER SCIENCE) | DUQUESNE UNIVERSITY **JAN. 2018 – DEC. 2019**

As an undergraduate student, I had the privilege of being selected as one of five top students in the department to provide tutoring services to my peers.

- Provided one-on-one and group tutoring for approximately 100 students enrolled in various CS courses
- Expanded personal knowledge of topics by asking professors clarifying questions about students' assignments
- Reduced number of potential academic integrity violations by reporting suspected violations to instructors

Education

COMPUTER SCIENCE M.S. | DUQUESNE UNIVERSITY
GRADUATED DECEMBER 2021 **GPA: 3.89**

COMPUTER SCIENCE B.S. AND MINOR IN MATHEMATICS | DUQUESNE UNIVERSITY
GRADUATED DECEMBER 2019 **GPA: 3.65 | MAJOR GPA: 3.95**

Skills

- Experienced with Android development, C++, Java, Kotlin, Visual Basic, Python, Docker, Ansible, Git, Jira, Bitbucket, and Agile Development
- Proficient with Bash, PHP, SQL, HTML, CSS, Data Preprocessing, Machine Learning, and AWS (Cognito, CloudWatch, and Lambda)
- Some Exposure to C, R, JavaScript, PyTorch, MATLAB, Gradle, and Kubernetes

Closed Source Projects

- **MACsposed** – An Android app that allows rooted devices running Android 12 or newer to have their MAC address spoofed. **(May 2022 – Present)**
- **Function Key Row** – A keyboard app for Android that adds the F1 through F12 keys to simplify the use of terminal-based applications from an Android device. **(Jun. 2019 – Present)**

Open Source Projects

- **CaptureSposed** – An Android app built in collaboration with Keshav Majeti that allows rooted devices running Android 14 or newer to block apps from detecting screenshots. **(Apr. 2024 – Present)**
- **InfiniDrive** – A Python-based proof-of-concept project aimed at leveraging images embedded in Google Docs to store arbitrary data without counting it towards Google Drive's 15GB storage quota. **(Mar. 2019 – Dec. 2020)**
- **Java Graphical Authorship Attribution Program** – Java-based machine learning software built by the Evaluating Variations in Language Lab for authorship attribution experiments. **(Feb. 2018 – Jun. 2023)**

Extracurricular Involvement and Research

- Duquesne University – Top graduating student of Computer Science – **May 2020**
- Future Business Leaders of America – Phi Beta Lambda National Leadership Conference Competitor
  - 5th place nationally, 1st place in Pennsylvania in Networking Concepts – **Jun. 2019**
  - 3rd place nationally, 1st place in Pennsylvania in Cyber Security – **Jun. 2018**
  - 1st place nationally, 1st place in Pennsylvania in Programming Concepts – **Jun. 2017**
  - 1st place nationally, 1st place in Pennsylvania in Desktop Application Programming – **Jul. 2015**
- Participated in Google I/O (**May 2019**), SteelHacks 2019 (**Mar. 2019**), SDLC Partners Hackathon (**Sep. 2018, Sep. 2019**), ACM Eastern Regional Competition (**Oct. 2017, Oct. 2019**)
- Student researcher with Duquesne University Evaluating Variations in Language Lab – **Feb. 2018 – Present**
- President of Duquesne University Chapter of the Association for Computing Machinery – **Nov. 2017 – Dec. 2019**

Academic Publications

The complete list of my academic publications is available on Google Scholar at:
https://scholar.google.com/citations?user=H6PSXugAAAAJ