David R. Crow

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EXPERIENCE

US Air Force *Team Chief / Penetration Tester / Tools Developer* **Mar 2020 – Present**
- Team Chief: interface with customer, build strategic plans, lead Operators during planning/execution, write reports.
- Penetration Tester: research target weapons system, construct/test/evaluate/execute tactical plans to exploit the system.
- Tools developed: robust password-cracker (Python), Microsoft Office exploit (VBA), wiper malware (Bash).
- Other responsibilities: supervise subordinates, provide peer mentorship, administer organization-level programs.

Cerner Corporation *Software Engineer Intern* **May 2017 – Aug 2017**
- Implemented notification center to improve patient scheduling, testing, and timekeeping in JavaScript.
- Drove linting/compilation/execution performance improvements for backend, in-house Python and Java tools.

Garmin International *Software Engineer Intern* **Mar 2015 – Dec 2015**
- Used React + JSX to build the UI and sensor system for aircraft instrumentation and aircraft diagnostic tools.
- Created the JavaScript-based UI for an internal, Tortoise-esque Subversion client.

SKILLS & CERTIFICATIONS

- Python; C++; JavaScript; SwiftUI; Bash; PowerShell; R; Git; LaTeX; TensorFlow; Keras; AI/ML; Spanish.
- CompTIA Security+; GIAC Exploit Researcher & Advanced Penetration Tester (GXPN); TS/SCI security clearance.

PROJECTS

TBD project **Aug 2022 – Present**
- Unsure at this point — currently completing other projects.
- Probably a web-based, analytics-focused companion app for UDisc.

Competitive Programming **Mar 2021 – Present**
- Designed Python solutions to Advent of Code problems; best performance: finished 410 out of 153,408 participants.
- Solved math-centric Project Euler problems in Python, minimizing number of lines and execution time.

Lines of Action **Jul 2020 – Nov 2020**
- Built SwiftUI app using MVVM paradigm to implement one-/two-player versions of an abstract strategy board game.
- Constructed game logic, artificial intelligence agent, state evaluation algorithm, customizable themes, animations.

EDUCATION

Air Force Institute of Technology *MS Computer Science, Emphasis in Artificial Intelligence* **Oct 2018 – Mar 2020**
- Graduated with 4.00 GPA as #1 student in department; awarded *Distinguished Graduate* for top performance.

Missouri University of Science and Technology *BS Computer Science, Minor in Mathematics* **Aug 2014 – May 2018**
- Graduated *summa cum laude* with 3.90 GPA; Dean's List member for all eight semesters.
- Campus Employment: programming lab tutor, programming course grader, desktop engineer.

PUBLICATIONS

Full citations and links to the texts: david-crow.github.io#publications **Mar 2020 – Dec 2020**
- "Engaging Empirical Dynamic Modeling to Detect Intrusions in Cyber-Physical Systems"
- "A Case Study of Automobile Identification Vulnerabilities and Automated Approaches for Intrusion Detection"
- "Empirical Dynamic Modeling as a Basis for an Intrusion Detection System"
- "Fingerprinting Vehicles With CAN Bus Data Samples"