

# THOMAS (TUCK) WILLIAMSON | RESUME

Software Engineer

**Status:** Student/Graduate Teaching Assistant, Masters of Computer & Information Sciences

**Interests:** Teaching, Software Engineering, Programming Languages, Embedded Systems

**Programming Languages:** Python, C/C++, javascript, LabVIEW, Java, Prolog, OCaml

**Areas of Expertise:** Embedded Development, Operating Systems, Software Engineering

College of Charleston

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843.478.3654



## Education

**Master of Science – Computer and Information Sciences** - College of Charleston

Expected December 2025

Graduate Teaching Assistant

Current GPA: 4.0

- Member, Phi Kappa Phi Honor Society, inducted Spring 2025
- Candidate (induction October 30, 2025), Upsilon Pi Epsilon Honor Society
- Graduate school scholarship award, Spring 2024

**Bachelor of Science – Physics** - Clemson University

May 1997

- Merit scholarship for students in the Sciences

## Research Experience

**AI and Graph Algorithms to Identify Duplicate Bug Reports** - College of Charleston

August 2025 – Present

Ongoing work with Dr. Kris Ghosh on research leveraging neural networks and community detection graph algorithms to identify duplicate bug reports in GitHub repositories.

## Experience

**Graduate Teaching Assistant** - College of Charleston, Dept. of Computer Science

January 2025 – Present

Created software to enable targeted, meaningful student feedback, as well as automate the testing of students submissions against rubric metrics. Collaborated with faculty on assignment design and student performance analysis. Communicated effectively and promptly with students and faculty.

Classes Assisted by Semester:

- **CSCI 340: Operating Systems** – Covering operating systems topics with C programming assignments.
- **CSCI 218: Engineering Programming** – Basic C Programming for Engineering Students.

**Independent Projects** - Stay-at-Home Parent

2012 – 2023

As a stay-at-home parent, I honed skills in communications, task management, mentoring, and informal teaching. Concurrently, I pursued self-directed education and developed several advanced personal projects.

- Built a distributed e-ink display system using a hacked Kindle, Python, Docker, and Habitica API to facilitate task and schedule communication with my children.
- Developed ESP32-based wearable devices.
- Designed Arduino-based GPS and sensor systems.

**Senior Software Engineering Consultant** - Thomas H Williamson LLC

2002 – 2012

Full software development life-cycle engineer proficient in all stages of development using both traditional software engineering and Agile development strategies. Developed C/C++ based embedded systems with TCP/IP API, and UI via HTTP server. Developed Python and LabVIEW-based data analysis and visualization tools.

- Spearheaded development of FPGA-based embedded systems for high-speed data acquisition, achieving throughput targets through CPU/Platform, kernel, and driver optimization.
- Delivered mission-critical systems under tight deadlines while interfacing with internal and external clients.
- Developed detailed technical documents for project management and external customer integration.
- Held DoD Secret Clearance.

**Senior Software Engineer** - Chesapeake Sciences Corporation

2001 – 2002

- Drove improved modularity and faster development across the department by engineering a shared high-performance, multi-threaded, multi-process circular data buffer system in C++ for GPS and sensor data.
- Reduced my department's development and testing time by developing a reusable C++ library that preserved thread safety for clients with API bindings to Python and LabVIEW via SWIG.
- Maintained and debugged kernel and drivers for embedded systems.

- Joined a small team supporting clients with software and systems hardened for cybersecurity.
- Learned the value of good project management.

- Developed a distributed regression testing system using C++ as a QA Analyst in my spare time.
- Tasked with the integration and automation of QA testing as a Software Developer.
- Spearheaded Linux platform research for the company.
- Led and mentored a small team of new developers (from the company's pioneering intensive zero-experience programmer training opportunity).

## Volunteer Experience

- Aid with team travel planning, vehicle renting, driving, etc.
- Plan activities - help with end-of-season (Fall, Winter, Spring) events, and end-of-year awards banquet.

- Support automation and communications for ticketed events.
- Aid the current Communications Chair.

- Managed communications during the startup of the first PanCAN affiliate for South Carolina.
- Provided technical support and automation for event ticketing.

Directed communications ministry, recruited volunteers, and oversaw publication of parish history book.

## References

Dr. Michael Levet – College of Charleston

Dr. Kris Ghosh – College of Charleston

Dr. Anthony Leclerc – College of Charleston

Contact information available upon request.