

Cecilia Simpson

Software Engineer I, Electronic Systems

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STRENGTHS

- ⚙️ **Simulation Development**
Built repeatable synthetic RF scenarios for laboratory testing. That practical structure gave teammates dependable inputs during design reviews.
- 🏗️ **Object Oriented Design**
Separated configuration, processing, and interaction into clear classes. Faculty reviewers could follow decisions without lengthy explanation.
- 🎯 **Evidence Based Testing**
Compared outputs with reference values and traced logs after failures. Careful checks turned uncertain results into reviewable findings.
- 👥 **Cross Functional Communication**
Explained software interfaces, limitations, and test findings to mixed engineering audiences. Clear presentations helped discussions stay focused.
- ♥️ **Responsible AI Use**
Reviewed coding suggestions against requirements, tests, and policy. That habit kept useful ideas while protecting technical judgment.
- 📊 **Database Application Work**
Connected run metadata with relational records for repeatable demonstrations. Teammates gained a simpler way to retrieve prior results.

SKILLS

C C++ C# OOA OOD

Database Applications

Software Development

Software Maintenance

Automated Test Equipment

Advanced Simulators

RF Systems Concepts

SUMMARY

Early career software engineering candidate completing a Bachelor of Science in Computer Engineering in 2027, with supervised laboratory and capstone work focused on C, C++, and C# applications. Built simulator components, **automated test equipment** utilities, synthetic RF scenarios, sensor data workflows, and database backed result histories. Applied **Object Oriented Analysis** and **Object Oriented Design** to create maintainable classes, clear interfaces, and reusable test components. Investigated failures through logs, controlled inputs, reference comparisons, and structured debugging. Communicated methods and findings through technical reports, spreadsheets, presentations, and multidisciplinary design reviews. Evaluated AI enabled coding suggestions against requirements, compiler output, tests, and responsible use guidance. Prepared for on site **electronic systems** development requiring U.S. citizenship and eligibility for a security clearance.

EDUCATION

Bachelor's Degree in Computer Engineering

George Mason University 🎓 GPA: 4.0 📅 2027 📍 Fairfax, Virginia

Coursework: C programming, C++ programming, C# programming, Object Oriented Design, database systems

TECHNICAL SKILLS

- **Programming Languages:** C, C++, C#
- **Object Oriented Methods:** Object Oriented Analysis, Object Oriented Design, Class Design
- **Database Applications:** Relational Databases, Database Queries, Run Metadata
- **Simulation Software:** RF Simulation, Sensor Simulation, Advanced Simulators
- **Electronic Systems:** RF Systems, EO/IR Systems, Radar Receivers
- **Test Equipment:** Automated Test Equipment, Laboratory Testing, Bench Interfaces
- **Software Verification:** Reference Testing, Automated Checks, Defect Analysis
- **Development Tools:** Compilers, Debugging Logs, Configuration Files
- **Productivity Software:** Word Processing, Spreadsheets, Presentations
- **AI Tools:** AI Enabled Coding, Output Evaluation, Responsible AI
- **Documentation:** Technical Reports, Interface Documentation, Design Records

EXPERIENCE

Electronic Systems Software Capstone Student

Capstone Project 📅 August 2026 - Present 📍 Fairfax, Virginia

Supervised capstone role supporting a laboratory simulator, database utilities, automated checks, and bench scale electronic systems interfaces. Contributed software design, testing, documentation, and **responsible AI** evaluation for faculty and multidisciplinary reviews.

- Developed **C++** simulator software generating configurable signal scenarios for repeatable **electronic systems** testing.
- Applied **OOA** and **OOD** across configuration, signal generation, result processing, and user interaction classes.
- Implemented **C#** utilities connecting test metadata with relational database records for repeatable demonstrations.
- Created automated checks, analyzed logs, and isolated failed simulator behaviors before faculty design reviews.
- Integrated outputs with a bench interface representing communications and sensor equipment, documenting interface assumptions.
- Evaluated AI coding suggestions against requirements, compiler results, tests, and course policy guidance.

EO/IR Systems Concepts

Radar Receiver Simulation

Laboratory Testing

Software Verification

LANGUAGES

English Native

Spanish Intermediate

MY CAREER



● Electronic Systems Software Capstone Student at Capstone Project (2 Months)

● RF and Sensor Simulation Software Student at Student Lab (4 Months)

● Automated Test Equipment Software Project Student at University Project (3 Months)

RF and Sensor Simulation Software Student

Student Lab 📅 January 2026 - May 2026 📍 Fairfax, Virginia

Supervised laboratory role developing C and C++ simulations for RF signals, radar receiver effects, sensor data, and database backed demonstrations. Supported cross disciplinary debugging, verification, analysis, and technical presentation work.

- Built **C** and **C++** exercises modeling **RF signals** and radar receiver effects with synthetic datasets.
- Designed object oriented waveform, receiver response, and result record components, reducing duplicated assignment logic.
- Compared simulated outputs with reference values, using test cases and spreadsheet analysis to investigate discrepancies.
- Stored scenario inputs and run summaries in a database application for repeatable **laboratory** demonstrations.
- Traced data flow across simulation code, configuration files, and representative **electronic systems** interfaces.
- Presented methods, limitations, and findings through technical reports, plots, and an oral laboratory review.

Automated Test Equipment Software Project Student

University Project 📅 September 2025 - December 2025 📍 Fairfax, Virginia

Supervised course project role creating C# and C++ software for simulated **automated test equipment**, database history, diagnostics, and architecture demonstrations. Documented design choices and verified behavior for faculty evaluation.

- Created a C# desktop application sequencing simulated test equipment checks and displaying diagnostic outcomes.
- Used OOA to define test step, instrument interface, result, and configuration objects before implementation.
- Added database backed result history for comparing diagnostic outcomes across test configurations.
- Implemented C++ computation modules and documented data exchanges with the C# application.
- Verified instructor supplied cases, documented defects, and summarized corrections in a spreadsheet.
- Demonstrated architecture, test logic, database use, and simulator concepts during a faculty evaluation.

PROJECTS

Synthetic RF Scenario Simulator 📅 2026

Started with a clear target, then built configurable synthetic signal scenarios, maintainable C++ classes, controlled tests, and documented interfaces for laboratory electronic systems evaluation.

Automated Test Equipment Workflow 📅 2025

Focused effort on a practical result, creating a C# workflow with simulated checks, diagnostic history, database storage, and documented native code exchanges.

LEADERSHIP & AWARDS

- Dean's List, George Mason University, 2025
- Undergraduate Computing Project Award, 2026
- Student Laboratory Presentation Recognition, 2026
- Computer Engineering Peer Tutor, 2026

CERTIFICATIONS

- C++ Programming Foundations 📅 2026
- Responsible AI Foundations 📅 2026

PROFESSIONAL AFFILIATIONS

- Student Embedded Systems Project Group Member, 2025 to Present
- Engineering Outreach Volunteer, 2026

- Computer Engineering Peer Tutor, 2026

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST