Daniel Vu

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EDUCATION

University of Minnesota Twin-Cities,   **Expected Graduation: Dec 2025**
College of Science and Engineering   *Minneapolis, MN*
BS Computer Science: Dean's List (Fall 2023), Presidential Scholarship Recipient
- Relevant Coursework: Algorithms and Data Structures, Advanced Programming Principles, Machine Architecture and Org, Computing and Programming Concepts, Program Design & Development

CERTIFICATIONS, SKILLS

- **Languages:** Python, Java, Ocaml, C, C++, Assembly
- **Technical Skills: Software Tools** - Docker, Jira, UML Class Design, **Object-Oriented Design** - SOLID Design Principles, Agile/Scrum, Design Patterns, Algorithms and Data Structures. **Programming Skills** - Prioritization Methods (MoSCoW), EARS Requirement Style, Gherkin Tests, Encapsulation, Inheritance, Polymorphism
- **Soft Skills:** Communication, Critical Thinking, Attention to Detail, Project Management, Adaptability, Problem Solving, Team Collaboration
- **Certifications: TestOut PC Pro Certification (6-1C6-NH5VR):** Tested through simulations and exams for installing, repairing, configuring, and securing computer hardware/software, and operating systems in home/corporate environments.

Technical Projects

- **Software Engineering Tools/Utilities**
  - Developed a Python code generator for cybersecurity applications, improving code validation by 20%
  - Created Java-based account management systems to process and secure sensitive user data.
- **Drone Delivery Sim**, Backend Developer
  - Developed a drone delivery simulation in an agile environment, incorporating features like recharge stations, battery management system, and data collection.
  - Engineered backend pathfinding in C++ and integrated 3D assets while implementing frontend functionality in TypeScript.
  - Designed system architecture with UML, utilizing design patterns (decorator, singleton, state, factory) for scalability and maintenance.
- **Robotic Projects**
  - Assembled and programmed robots using different gear systems for movement and task execution.
  - Engaged in collaboration to brainstorm ideas, prototype designs, and troubleshoot technical issues.
  - Acquired practical skills in gear ratios, torque calculations, and motion control principles increasing robot task efficiency by 25%.
  - Demonstrated adaptability and problem-solving abilities in overcoming project challenges.

WORK EXPERIENCE

Tech Academy   **Apr 2024 – Present**
Stem Teaching Assistant   *Little Canada, MN*
- Prepared computer science course materials, guiding students in robotics and virtual reality coding projects
- Coached students in assembling robots and troubleshooting technical issues, improving their understanding of robotics by 70%
- Led workshops that introduced 100+ students to virtual reality development, resulting in a 90% project completion rate.