

# Christopher Popovich, MSc, Mechanical-Software Engineer

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## PROFESSIONAL SUMMARY

Accomplished Mechanical-Software Engineer with a Master's degree in Mechanical Engineering focused on Laser Plasma Interactions, specializing in the development and implementation of advanced engineering software tools. Expertise in Azure DevOps, CI/CD practices, and .NET technologies, coupled with a robust passion for numerical simulation applied to enhance system design and operational efficiency. Demonstrated ability to lead sophisticated software projects for diverse applications, from data center reliability analysis to engineering tools to training simulation for the U.S. Navy, ensuring successful deployments and strategic enhancements. Previously held a Top-Secret security clearance, enabling effective management of sensitive and critical projects.

## TECHNICAL SKILLS

**Languages :** C#, C, C++, SQL (Postgres, MS-SQL, MySQL), Rust, Go, Python, JavaScript, TypeScript, HTML, XML, JSON, CSS

**Frameworks :** ASP.NET (.NET Core, MVC, VB.NET), Blazor, WPF, WinUI, jQuery, Node.js, Bootstrap

**DevOps and API Tools :** IIS, Git, Docker, Azure DevOps, Build/Release Pipeline Deployment Automation, Swagger, Postman

**Software Development :** Agile (Scrum/Kanban), SOLID, Design Patterns, Debugging, Root Cause Analysis

**Mechanical Engineering :** Thermal System Analysis (Chilled Water Plants), Heat Transfer, Turbulence, Psychrometrics, Computational Fluid Dynamics (6SigmaRoom, ANSYS), Power Usage Effectiveness Analysis, Availability Analysis

## EXPERIENCE

### Mechanical-Software Engineer Senior Associate | DLB Associates

May 2022 – Present

- Spearheaded the development and ongoing enhancement of internal engineering software tools, leveraging expertise in Azure DevOps, CI/CD practices, and .NET languages.
- Led successful deployments utilizing .NET 8.0 and Blazor, focusing on robust and scalable software solutions.
- Engineered and optimized chilled water system designs using Pipe-Flo, ensuring strict adherence to client specifications and industry standards.
- Conducted a detailed availability and reliability analysis of datacenter power delivery systems for a high-profile client, utilizing ReliaSoft BlockSim 2023 to meet stringent reliability requirements.
- Developed innovative software to calculate power usage effectiveness for megawatt-sized data center facilities, collaborating with senior engineers to ensure accurate and client-ready solutions.
- Created custom Revit add-ins using the Revit API to enhance modeling efficiency and accuracy, tailored to specific project needs.

### Software Engineer | Crew Training International

November 2021 – May 2022

- Led the design and development of a training module as part of simulation software for the U.S. Navy under the Ready, Relevant Learning initiative, utilizing Unity and C# to simulate realistic operational environments.
- Partnered with internal artists to accurately recreate critical system components and physical settings, ensuring the software met stringent educational and training standards.
- Worked closely with Instructional System Designers to develop and implement comprehensive evaluation metrics within Unity projects, enhancing the educational impact of simulations.
- Contributed significantly to the maintenance and update of a comprehensive repository of Interactive Courseware Level 4 products, utilizing GitLab for sophisticated version control. Collaborated closely with project teams using Jira to effectively track development progress and ensure adherence to project milestones and delivery schedules.
- Regularly measured and reported on weekly progress against technical initiatives and project plans, adjusting strategies as necessary to meet stakeholder delivery objectives.
- Held a Top-Secret security clearance.

### Systems Engineer | Tipping Point Solutions

October 2020 – November 2021

- Actively contributed to the systems design of advanced simulation tools for the U.S. Navy's Ready, Relevant Learning initiative. Worked alongside Navy Subject Matter Experts from various specialties to develop high-level systems designs.
- Participated in and facilitated key discussions during workshops led by team members, helping to bridge communication between Navy Subject Matter Experts and the engineering team. Provided practical examples of current technologies that could fulfill specific training requirements.
- Assisted in the analysis of detailed curriculum, training materials, and secret-level documents related to the maintenance of propulsion, weapons, and aircraft systems, ensuring simulations were developed with a high degree of accuracy and relevance.
- Supported the tracking and reporting of project progress, ensuring adherence to timelines and Navy standards. Presented updates and findings directly to Navy officials as required, contributing to informed decision-making and project alignment with naval training goals.
- Held a Top-Secret security clearance.

## EDUCATION

### University of Rochester

MS in Mechanical Engineering

October 2017 – October 2018

### CSU, Sacramento

BS in Mechanical Engineering

June 2015 – December 2016