

Simon Vega

Software Engineer Intern - C# .NET Desktop

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Hiring Manager
Crescent Peak Trading
Chicago, IL

Dear Hiring Manager,

I am a Computer Science student at Northwestern University with a 3.72 major GPA and hands-on experience building C# .NET desktop applications in WPF and WinForms. I am interested in Crescent Peak Trading's Software Engineer Intern role because it combines careful software design with interfaces that must give users clear, timely information. My recent projects have focused on that same problem in simulated market-data environments.

As a research assistant in Northwestern's University Market Systems Lab, I developed a WPF prototype displaying simulated option quotes, order states, and connection health. I used MVVM, observer, and factory patterns to keep interface behavior separate from feed simulation, then wrote NUnit tests for quote validation, order transitions, and stale data. I also built an integration-test harness that replayed 50,000 timestamped messages and exposed sequencing defects before demonstrations. Findings from those tests and from user feedback led to clearer status indicators and a simpler recovery workflow.

My capstone project gave me additional practice with the details that make real-time desktop software dependable. I helped build a WinForms application for monitoring simulated equities, order tickets, and risk alerts, including an update queue that kept 12,000 replayed market events from blocking interface rendering. We tested disconnected feeds, duplicate messages, invalid orders, and boundary values, and used Git reviews and issue-linked commits to manage the work. I presented the finished application and incorporated feedback into keyboard shortcuts, error messages, and the activity view.

I would bring a solid foundation in C#, .NET, object-oriented design, Git, NUnit, and integration testing, along with experience explaining technical decisions to student teams and faculty reviewers. I would welcome the chance to learn Crescent Peak Trading's systems from Traders, Quants, and Software Engineers while taking ownership of a project and contributing thoughtfully to the User Interface team.

Thank you for your consideration. I would appreciate the opportunity to discuss how my desktop development and testing experience could contribute to Crescent Peak Trading's summer internship program.

Sincerely,

Simon Vega

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