Vedad Alic

“Fullstack .NET developer with an engineer's mind.”



Summary

Fullstack .NET developer with a PhD in Structural Mechanics and 13 years in software development, from numerical research code to production case management systems. My core strengths are C#/.NET, SQL and backend architecture, complemented by frontend work in AngularJS/Angular and CI/CD. I've spent recent years building and operating a case management system, and bring a deep background in numerical methods and optimization. I'm well suited to backend-heavy .NET assignments, performance-critical systems, and projects where complex domain logic meets business software.

Skills

C# · .NET / .NET Framework · SQL · Angular / AngularJS · JavaScript · CI/CD · Azure DevOps · Octopus Deploy · Azure · SharePoint · SSAS / SSIS · Python · NumPy / SciPy / Pandas · Linux · Docker · Bash · PowerShell · Git / GitHub · REST APIs · Unit testing · NHibernate · EF Core · Frontend Development · Backend Development

Experience

IT Consultant · GESHDO

October 2026 - Current

EMPLOYMENT

GESHDO specializes in IT consulting with a focus on tailored solutions and rapid delivery. Working across cloud platforms, backend development, and system integration to help clients solve complex technical challenges.

Senior Fullstack Developer · Danish Agency for Higher Education and Science

April 2022 - August 2026

e-grant · CONTRACT VIA NETCOMPANY

Development, maintenance, and operation of e-grant, the agency's on-premises case management system for grant administration, with separate interfaces for internal case officers and external applicants. Worked across the full stack in a team of 3–4 Netcompany developers and 6–7 client staff, acting as an informal tech lead: onboarding colleagues, reviewing code, and guiding architectural decisions. Took several features from initial discovery through design, implementation, and production release, working directly with client staff on requirements.

Platform upgrade and federated authentication. Architect of the upgrade to SharePoint Subscription Edition and the migration of a multi-server, multi-environment platform, including moving internal case officers to federated authentication.

Performance. Led performance studies resulting in query optimization and caching, improving response times during the seasonal peaks around application deadlines.

Financial transaction tracing. Designed and implemented traceability of the financial transactions on each grant, including reconstructing more than 10 years of history from historical data. The agency verified and adopted the solution, which improved traceability of each grant's money flow.

Document conversion and merging service. Built a standalone Aspose-based service to replace a costly external system, converting and merging application documents into collections and archive-ready files for the national archiving authority. Concurrent processing shortened processing time per document, and malformed files were surfaced to case workers.

Modernization. Built a proof of concept for a new external portal in Angular and TypeScript, with a migration plan from AngularJS, and planned a tabular replacement of the data warehouse's multidimensional cube for Power BI reporting. Maintained CI/CD with automated deployments to test environments and supported deployments to the client's environments.

.NET (Core 6+) · .NET Framework · C# · MSSQL/SQL Server · JavaScript · TypeScript · HTML · CSS · Angular · AngularJS · Node.js · NPM · SharePoint · SSAS · SSIS · Aspose · Hangfire · SignalR · ASP.NET · ASP.NET Core · Octopus Deploy · Azure DevOps · Azure · Unit testing · NUnit · EF Core · NHibernate · LINQ · Python · pip · uv · Git · PowerShell · Technical documentation · DevOps · Jira

IT Consultant - Senior Software Engineer · Netcompany A/S

April 2022 - August 2026

EMPLOYMENT

Netcompany is a Nordic IT consultancy delivering large-scale digital solutions for public sector and enterprise clients. I worked as a consultant on a long-term engagement for the Danish Agency for Higher Education and Science (see e-grant above). Beyond client delivery, I took on people responsibilities as a consultant, including conducting performance appraisals.

Computational Engineer / Developer · Tyréns AB

February 2019 - March 2022

EMPLOYMENT

Structural design and analysis combined with development of software tools for the AEC industry, mainly Windows applications with WPF UIs and integrations into CAD/FEA pipelines.

Designed and built an in-house tool for life-cycle assessment (LCA) of buildings directly from Revit models, with computation and visualization of results. Made available to all consultants at Tyréns, it turned LCA studies from a separate, manual exercise into something that could be done quickly within the design workflow, so climate impact could inform design decisions early.

Developed integrations between design (CAD) and analysis (FEA) tools that automated model translation for my team, reducing time spent per model and eliminating a common source of human error.

Built automated Python pipelines for structural design optimization, driven via REST APIs from the design software. Engineers got fast, validated feedback on design alternatives, which made some projects feasible that would otherwise have been too time-consuming.

C# | .NET Framework | Python | NumPy | SciPy | Grasshopper3D | SQLite | Robot API | Revit API | WPF | REST APIs

PhD Candidate · Div. of Structural Mechanics, LTH, Lund University

September 2013 - December 2018

EMPLOYMENT

Developed numerical methods for structural design that combine computational mechanics with computational geometry, and implemented them in research frameworks and demonstrator software. Published 2 journal articles and 4 conference papers.

Isogeometric analysis and form-finding. Developed large-deformation isogeometric membrane finite elements based on non-uniform rational B-splines (NURBS) and investigated their use for form-finding. The methods work directly on the design geometry, without a separate finite-element mesh. Implemented in .NET, Python and MATLAB, with integrations to Rhinoceros 3D.

Algebraic graphic statics. Developed methods for bi-directional, constrained manipulation of form graphs and their dual planar force graphs, published in the journal Computer-Aided Design. Backend methods in Python, GUI in Rhinoceros 3D (.NET and ZMQ).

High-performance computing. Developed a multi-level substructuring approach that reduces complex-valued models with several million degrees of freedom to roughly 10,000 degrees of freedom, cutting ground wave propagation studies from hours to minutes.

Open source. Contributed to Python packages in the research area, including CALFEM and compas_ags.

C# | .NET Framework | Python | NumPy | SciPy | Pandas | matplotlib | MATLAB | HPC | Linux | C++ | CUDA | B-splines | NURBS | Git | Bash

Education

PhD in Structural Mechanics

Lund University · 2013 - 2018

Doctoral Thesis: Computational Methods in Conceptual Structural Design.

The doctoral research was conducted at the Division of Structural Mechanics, LTH, Lund University. The core areas of the division are Structural Mechanics, Constitutive Modelling and Computational Methods, where I focused on the latter.

During my time at the division, I taught a course in software development for scientific applications, where engineering students learned to build their own analysis software in Python. I supervised five master's theses in the area.

Master of Science in Engineering, Architecture and Engineering

Chalmers University of Technology, Gothenburg · 2006 - 2013

Specialization in Computational Mechanics. Thesis title: Vibration reduction in soil through the use of buildings at the synchrotron radiation facility MAX-IV.

The programme combines architecture and engineering. It was here that I discovered my interest in programming, through computation as a driving tool for design in the built environment.

Certificates

Microsoft Azure	Microsoft Certified: Azure AI Cloud Developer Associate **2026** · Microsoft Certified: Azure Administrator Associate **2026**
Coursera	Stanford Online: Machine Learning **2019**

Languages

Swedish Fluent

English Fluent

Bosnian Advanced