

Shyamsundar Nuggehalli

Engineering and Operational Leader, NX Core & Cloud Services



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SKILLS

- Project management, Program management
- Agile software development, Scrum, Test-driven development.
- Mentoring and guiding new hires. Managing a global team.
- API Design, Microservices and REST APIs
- Data transformation and conversion, Data mining tools.
- UI design, Object Orientated design
- Security and Encryption
- Scalable system, Backend development.
- Data structure design, Metadata management.
- Scalability & Performance.
- Server and client data model design, server customization.
- Automated testing framework design.
- Review design documents.

EDUCATION

University of Wisconsin, Madison

Mechanical & Comp Sc Engineering, PhD

Focus area Developing a cloud-based SaaS system for collaborative design. This has been referenced in more than 600 scholarly articles including books, journals, and research papers. Served as review coordinator for several scholarly publications.

Indian Institute of Science, India

Mechanical Engineering, Masters

Anna University, India

Mechanical Engineering, Bachelors

AWARDS

Siemens You Answered Recognition

NX Architecture, 2021

All Star Award

NX Architecture, 2018

Teamcenter Center for Excellence, 2011

Teamcenter Management, 2008

Technology and Innovation Award

Industry Week, 2005

SUMMARY

A professional engineering leader with 21 years of experience in Software Engineering. Current leading a global engineering team at ANSYS. Strong decision maker who recognizes the value of team input. Provide technical leadership for complex projects. Experienced in design and implementation of distributed systems. Ability to work with distributed teams within the company and external partners in a fast-paced environment. Good knowledge in system design.

PROFESSIONAL EXPERIENCE

ANSYS Simulation Process Data Management ([ANSYS](#))

Lead Cloud Architect

2022-current

- Responsible for successful role out of Software-as-a-Service (SaaS) product offering on AWS/Azure.
- Develop strategic plans, refine requirements and provide technical leadership in achieving development objectives.
- Provide updates to executive management on project status.
- Work with strategic customers or proxies to assess needs and develop solutions
- Coordinate product design and development activities requiring extensive analysis in areas such as user experience, software design and solver research.
- Act as a technical reference within a group or product.
- Develop and employs best practices and maintains them through technical reviews and mentoring.
- Perform complex bug verification, release testing and beta support across multiple products.
- Research problems discovered by QA or product support and develops solutions, collaborating with the QA/support team.
- Research and understand the marketing requirements for products, including target environment, performance criteria and competitive issues.
- Architected the cloud infrastructure for rapidly deploying the existing product in AWS using IAAS technologies.
- Architected and designed micro services for native cloud-based solution.

Siemens PLM Software ([NX/Teamcenter](#))

Engineering and Operational Leader, NX Core & Cloud Services

2012-2021

Project Leader, Teamcenter Architecture

2009-2011

Software Engineer III

2005-2009

- Responsible for successful role out of several high visibility features and products in infrastructure teams of Siemens NX and NX SAAS based on AWS.
- Manage high impact cross functional projects from inception to delivery.
- Provide regular updates to upper management and key executive stake holders.
- Collaborate with stake holders to understand the business requirements, define the scope of the projects and estimate the budget.
- Provide risk assessment to management, and monitor project schedules and resources. Work closely with developers to ensure all the Software development

guidelines are followed.

- Review system architecture for ease of maintenance and security issues. Develop long term strategy for key product features.
- Automate development activities to support continuous release.
- Develop best practices. Conduct code reviews.
- Review and approve project test plans and coordinate with the testing team to ensure delivery of project with required quality.
- Coordinate the project roll out with other development teams as well as release management to ensure smooth delivery of the project.
- Provide company-wide technical presentations. Publish white papers on new technology for customers during new product roll-out.
- Instrumental in executing the localization effort to support worldwide distribution.
- Perform Threat Risk Analysis on new projects to ensure the organizational security guidelines are followed.
- Setting up the SRE team for NX SaaS and developing the procedures for handling service incidents.
- Conduct technical interviews and hire talented engineers for the team. Mentor and guide engineers to grow in their career. Work with a globally distributed team of software engineers.
- Responsible for resolution of customer escalations related to deployment, upgrade, configuration & usability issues.
- Closely interact with the design office and participate in center for excellence initiatives.
- Involved in the design and implementation of pilot projects to explore new technologies that could enhance the existing product.

Key Initiatives and projects

- Operational and Security improvements for NX SaaS.
 - Resolve issues identified during the Well-Architected Framework review.
 - Manage the SRE team. Conduct operation reviews by gathering data from Cloud watch, Athena, Inspector, GuardDuty, IAM, SNS and other related services.
 - Create and maintain the Runbook and Playbook and organize game days and DR gamedays. Monitor SLA and ensure the RCA for any PagerDuty incidents are properly documented. Gather cost data from the cost explorer for the organizations account and identify and document best practices for efficient operations.
 - Design administrative tools for monitoring the status of the services.
 - Provide cost estimates for SaaS Operation and review monthly budgets.
- Feature flags for continuous code integration.
 - Review the requirements and schedule meetings to plan the implementation phases. Coordinate the implementation of the POC and present the results to stake holders. Identify the tasks for implementation and finalize the assignments.
 - Monitor the progress of the project and relay the progress and risks to upper management. Conduct code reviews and coordinate testing with product validation. Resolve issues identified during testing. Ensure the final product meets all the criteria for integration into the main branch. Conduct training sessions and prepare training material for the rest of the organization. This project was critical to move from yearly waterfall-based development to monthly release.
- Automate the localization processing during the product build. Streamline the inclusion of translated strings into the kit. Dramatically reduced the need for creating incremental builds during final phases of the release.
- Create dashboards for business process reviews. Setup teams and channels in Microsoft Teams for different development areas.
- Securely transfer encrypted design data between collaborating teams.
- Java based IDE (BMIDE) for codeless customization of Teamcenter server.
 - Instrumental in creating an IDE based on the Eclipse using EMF, GEF.
 - Worked on creating the data model, UI and dialogs.

- Created a testing framework for testing the different components.
- Performance and scalability improvement project to support increase in number of concurrent users in distributed systems.

Autodesk ([AutoDesk Vault](#)/ [Inventor](#))

Software Architect

2002-2004

- Functioned as the technical leader for the team integrating Vault into the Autodesk product stream. Provided updates to Autodesk executive management on the technical aspects of the integration effort.
- Designed several core server and client components of the Vault as well as administrative tools for configuring the server and data recovery tools for backup and restore of Vault data.
- Started the localization effort for AutoDesk vault to support worldwide distribution.
- Designed and developed the mechanism for rapidly searching through engineering data stored in the Design Management Solution database.
- Designed and developed the native viewing framework UI for quick visualization of assemblies and drawings stored in the Engineering Design Management Solution database.

Alventive Inc.

Software Engineer

2000-2002

- Developed administrative tools for configuring and troubleshooting remote customer deployments.
- Responsible for troubleshooting problems during deployment and also provided technical support to field personnel performing deployments at customer sites.
- Responsible for development of the Data Access Layer, which provides the core functionality for developing a suite of 'Collaborative Product Design' solutions.
- Implemented modules for storing and accessing system configuration and meta-data from the database.
- Involved in the design and implementation of pilot projects to explore new technologies that could enhance the existing product.

TECHNOLOGY

- AWS Managed Services,
- EC2, ECS, Lambda, Cloud watch, SNS, S3, File Gateway, Athena
- IAM , Inspector, GuardDuty,
- Azure, Azure AD, Blob storage, Analytics, Logging, Azure SQL
- IAAS using templates, Cloud formation and ARM templates.
- Cost optimization, Image scanning, Turbot
- JAVA, C++, Perl, Python, Javascript.
- JIRA, Polarion, Microsoft Teams
- GitLab CI/CD pipeline, Perforce
- Docker, Postman, Node.js
- Application servers, SQL, Oracle, Dynamo DB.
- J2EE, Weblogic
- Eclipse IDE, EMF, Junit
- Windows, Linux environments
- UML class diagrams, Unit testing frameworks.
- Virtual reality, Augmented reality, 3D reconstruction
- NX, Teamcenter, ARAS, CATIA, SolidWorks, Inventor
- 3D modeling and printing.

CERTIFICATIONS

Product and Solution Security Expert Training

Data Privacy Essentials, Cyber security