

## ADITYA TANIKANTI

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Highly skilled, versatile and innovative IT professional with over 8 years of professional experience in leading, designing and building applications, API's and data management workflows. I love to automate and have always provided unique thoughts and solutions using computers as tools. I have made several contributions to the scientific community and open-source scientific software's, facilitating hundreds of researchers to achieve substantial scientific contributions.

## Skills

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- \* Expertise in end-to-end application development and design solutions in multiple domains using languages like `Python, SQL, Java, JavaScript, R, C++, Shell scripting`.

- \* Experience with DevOps tools and technologies. Used several tools such as `Docker, Docker compose, Singularity Containers, Spack builds, Kubernetes, Jenkins, Gitlab CI, Travis CI, Chef & Ansible` to establish in house cloud infrastructure providing PaaS and SaaS.

- \* Expertise with setting up and using version control systems & code maintenance tools like `Git, SVN, Bitbucket`.

- \* Performed several database management tasks using `Oracle 10g/11g and 12c, MYSQL, TOAD, PostgreSQL, Mongo DB (No SQL)`.

- \* Established and maintained several web application servers such as `WebLogic, Apache Server, Nginx`.

- \* Developed applications using big data search frameworks such `Apache SOLR, Elastic Search and Lucene`.

- \* Worked with big data tools and technologies such as `Hadoop, Spark`.

- \* Built predictive and statistical modes using machine learning packages in `R and Python`.

- \* Proficiency with MVC technologies such as `Django, Flask, Spring MVC, Struts 1.2, Struts 2.0 & JSF`.

- \* Used BI tools such as `Tableau` for presentations and visualizations of statistical significance.

\* Developed products using `Core Java, J2EE, Servlets, EJB, JSP, JDBC, Java Beans and Design Patterns`.

\* Debugged applications which used multiprocessing & multi-threading frameworks (MPI / Open-MP) written in `C++, Fortran, Python`.

\* Proficient in web development technologies `Java Struts/Spring MVC, Python Flask, Python Django, MEAN (MongoDB, ExpressJS, Angular 10, Node.js) stack, LAMP (Linux, Apache, MySQL, Python), D3.js, HTML, CSS, Ajax, JQuery, REST API`.

## Experience

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### # System Integration Specialist

\* Argonne National Laboratory\*

\* 2019-Nov-11 to Present\*

- Worked with user experience team and application development team to develop applications that ease workflows for users of the Leadership Computing Facility clusters.

- Built CI/CD workflows using `Kubernetes pods, docker container, Jenkins CI` while collaboratively working on Git based repositories.

- Supported researchers by resolving user queries based on High Performance Computing (HPC) clusters Theta, ThetaGPU Mira & Cooley maintained at Argonne Leadership Computing Facility.

- Provided support for COVID-19 related projects & aided research groups in running their codes.

- Extensively used Python and Shell Scripts to automate processes and workflows for researchers and internal use.

- The application development team uses languages including, but not limited to `Python Django, AngularJS & Angular 10, My SQL & Cypress`.

### # Senior Software Engineer & Programmer

\* University of Chicago\*

\* 2017-Apr-12 to 2019-Dec-24\*

- Lead developer and Contributor of [Qresp (Curation and Exploration of reproducible scientific papers)](<https://qresp.org/>). An open source distributed scientific web application aimed to enrich reproducibility of research and scientific simulations. The software Increased ease of access and reproducibility of scientific simulations and workflows using by more than 70%.

- Contributions to the open-source large scale electronic processing package called [WEST](<http://www.west-code.org/index.php>) developed by researchers of Argonne National Laboratory, Material Sciences Division.
- Collaborated with researchers working for Galli group and Midwest Integrated Center for Computational Materials (MICCOM) in designing packages and codes for HPC systems using MPI/OpenMP.
- Provided guidance to researchers working with Machine Learning algorithms & concepts.
- Collaborated with the researchers of Pritzker School of Molecular Engineering to ensure Continuous Integration by creating plug-in for scientific workflow's using Dev-Ops tools like `GitHub/Gitlab, Subversion, Containerization using Docker, CI/CD using Gitlab CI/Jenkins`.
- I helped in setting up nodes to automate testing for codes written by researchers at MICCOM.
- I Setup from scratch an on-site web application server and database servers.
- We used languages like, but not limited to `Python Flask, HTML, CSS, JavaScript, JQuery, AJAX, Flask REST API, Redis/MySQL`

## # DBA Intern

\*Jewelry Television\*

\*2016-Jun-06 to 2016-Aug-19\*

- Optimized SQL querying to reduce time for product displays on turn tables.
- Performed upgrades to Oracle database from 11g to 12c.
- Analyzed sales data and developed key metrics using Time series analysis to optimize sales during holiday season.
- Applied supervised machine learning techniques to project jewelry sales and deduced optimal pricing of discount coupons for structuring pricing during off seasons.
- Mainly used and learned `Python, SQL & Tableau`.

## # Software Engineer

\*Wipro Technologies\*

\*2012-Jun-25 to 2015-Jun-01\*

I worked for two clients during my time here, Credit-Suisse and MasterCard.

CREDIT-SUISSE: Collaborated with a team of 15 along with several application development and business workflow teams to design a new one stop application system called Finance Workstation (FWS).

- Managed day to day reporting applications and streamlined reporting tasks by automating repetitive activities.
- Worked with Oracle Business Process Management Tools to design and build business workflows for Credit-Suisse Investment banking company.
- Participated in upgradations of overall architecture (i.e. database from 10g to 12c, ECP UX portal to Angular MVC etc).
- Implemented and maintained front end web portal written `HTML, JavaScript, AJAX and jQuery`.
- Participated in System design and used Java based MVC technologies such as `Struts 1.2` to implement the back end for FWS.
- Core member in gathering requirements from client, documenting functional and application design strategies, coding and unit testing.

MasterCard (MATCH): Collaborated with a team of 4 to work on MATCH (Member Alert to Control High Risk Merchant System), a web-based risk management application.

- Developed machine learning models for MATCH which can be used to detect fraudulent merchants who misuse MasterCard.
- Designed the front-end forms/applications for employees of Mastercard to input data into the MATCH application.
- Automated periodic visualizations and reports to display customer transactions.
- Utilized Java based technologies such as `Spring MVC & Hibernate`, `SOLR` for search `JavaScript, HTML` for front end and `Oracle 12c` for database.
- Resolved troubleshooting issues, devised innovative solutions, and documented resolutions for inclusion in knowledge base for support team use.
- Held Scrum meetings and designated tasks to other team members for modules I owned.
- Participated in complete life cycle of the product i.e. from gathering requirements, designing and implementing solutions, testing the solutions and finally delivering the product.

## Education

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### # Master of Science in Computational Science

\*Indiana University\*

\*2015-Aug-24 to 2016-Dec-16\*

\*GPA: 3.5\*

### # Bachelor of Engineering in Computer Technology

\*Nagpur University\*

\*2008-Jun-23 to 2012-Jun-18\*

\*GPA: 3.5\*

## Publications & Peer Reviews

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- Qresp, a tool for curating, discovering and exploring reproducible scientific papers  
Nature - Scientific Data, <https://www.nature.com/articles/sdata20192>

- MatD<sup>3</sup>: A Database and Online Presentation Package for Research Data Supporting  
Materials Discovery, Design, and Dissemination.  
Journal of Open-Source Software. <https://joss.theoj.org/papers/10.21105/joss.01945>

- SCALAR - A Platform for Real-time Machine Learning Competitions on Data Streams  
Journal of Open-Source Software. <https://joss.theoj.org/papers/10.21105/joss.02676>

- Talisman: a JavaScript archive of fuzzy matching, information retrieval and record linkage  
building blocks  
Journal of Open Source Software  
<https://joss.theoj.org/papers/10.21105/joss.02405>

## Awards

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- Awarded Impact Argonne award for Extraordinary effort for contributions made at ALCF in  
\*\*2020\*\*.

- Awarded the 'Instant Karma' award twice in a row given to the best SME/Technical Consultant  
in Wipro for my contribution to the client centric projects of Credit Suisse (Finance  
WorkStation) and MasterCard (MATCH) in \*\*2014\*\*.

- Bronze Medal in Wipro's internal training for freshers program and exam in \*\*2012\*\*.