DHANANJAY GUPTA

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⚲ SUMMARY: Experienced in robust enterprise software and full-stack development. Driven by new challenges, brings in strong problem solving, analytical and software engineering skills along with a can-do attitude.

SKILL SET	LANGUAGES	**Java 8, Python, JavaScript, C++, HTML5, CSS, SQL, Bash**
	WEB DEV	**Node.js, J2EE, Struts, Hibernate, Spring, MVC, Express.js**
	TOOLS	**GIT, Docker, Jenkins, Gradle, Design Patterns, MongoDB, MySQL**

🎓 EDUCATION

M.S., Computer Science, **University of Illinois at Chicago**	May-2019 (Expected)
B.E., Information Technology, University of Technology of Madhya Pradesh (RGPV), India	June 2017

Relevant Courses: Advance Software Engineering | Advance Computer Algorithms | Database Systems | Distributed Systems | Object Oriented Analysis and Design | Android Application Development | Applied Artificial Intelligence | Data Mining and Text Mining | Cloud Computing | Web Technologies | Computability and Complexity

💼 WORK EXPERIENCE

Graduate Teaching Assistant, UIC

Advance Software Engineering, CS-540   January 2019 - Present

- Advised and evaluated Graduate students on paper presentations, addressing top three unanswered issues on recent topics in advance software engineering including blockchains and mobile operating system security. Responsible for grading the final group projects and reinforcing learning of topics in advance software engineering.

Object Oriented Languages and Environment, CS-474   January 2019 - Present

- Tutored Graduate and Undergraduate students to reinforce principles underlying the design and implementation of object-oriented (OO) programming languages such as C++, Java, C#, Smalltalk, Python, and Ruby.

Software Development for Mobile Platforms, CS-478   Aug 2018 - Jan 2019

- Tutored and assisted Graduate/Under-grad students to help them master Assignments and to reinforce learning concepts (Software Design and Engineering, Operating System-Android, Design Patterns, Java 8, Asynchronous programming. Multithreading etc.) presented by the professor.
- Substituted lectures, assisted professor with grading, projects, classroom instructions and exams for the course.

🖥 PROJECTS

EMPIRICAL ANALYSIS OF JENKINS PIPELINES *(Node.js, Jenkins, Docker, Git, Python, JSON, CI/CD, DevOps)*

- Empirically investigated large number of CI/CD pipelines and obtain statistical data that describe the content and patterns in them. Searched and obtained Jenkinsfiles and other pipeline artifacts from open-source repositories.
- Used NodeJS to asynchronously retrieve Jenkinsfiles from Github. A Jenkins instance was hosted on Docker to take advantage of its Jenkins-model-definition plugin which can parse Jenkinsfile and provide it in a JSON format. This data is then used by the Python application to do the analysis and generate the graphs.

GIT REPOSITORY ANALYZER *(Python 3.X, Git, Parsing, Understand)*

- Designed, implemented a git patch analyzer which does string and syntax level parsing to analyze and generate reports for the repositories written in Java. The application determines common bugs by analyzing repeated patterns in 'patches' to source code.
- The application determines common bugs by analyzing repeated patterns in 'patches' to source code. Obtaining a rich data set by linking the patch to a specific commit, extracting and saving its metadata that contained information about program entities that were modified.

DEVOPS ORCHESTER (*Java 8, Jenkins, Git, Docker, Gradle, JaCoCo, Gitlab, Understand, Unit Testing, Java Maven apps)*

- Developed a scalable and robust DevOps environment from developers pushing their code to automated building, testing and analysis of the code.
- The process is undertaken through uploading each repository to a local GitLab server and triggering the local Jenkins server which builds, tests and analyses repositories using JaCoCo and Understand.

ASPECT BASED SENTIMENT ANALYSIS (*Machine Learning, Python, Data Mining and Text Mining)*

- Analyzed a dataset, containing both, an aspect term and the text. Our solution involves understanding various approaches to tackle the task, analyze the text/sentences and finally builds a classifier capable of determining the sentiment of the provided text/sentence. We examine various text cleaning techniques, machine learning models and discuss their respective merits.

ONLINE SHOPPING WEB APPLICATION *(J2EE, MySQL, Struts, Hibernate, Tomcat, MVC)*

- Designed and implemented an online shopping environment over multiple categories of products enabling user to create private accounts and store items in an inbuilt shopping cart.

ANDROID APP DEVELOPMENT *(Java 8, Operating System, Multithreading, Design Patterns, Software Engineering)*

- Multi-Threaded synchronous game played between two threads to predict a predefined random no.
- An application using Fragments to retain configuration change.
- An app to generate and manipulate list of favorite songs, application to create SQLite database, fetch data using content providers, services and permissions

APPLIED ARTIFICIAL INTELLIGENCE *(Artificial Intelligence, Design)*

- Designed an Expert System, Fuzzy Expert System, Bayesian Network and a Decision System (combination of Bayesian Network and influence Diagram, designed using NETICA) in the domain of User Loan Applications and Repayments. Was graded 10/10 on all system designs.

BIGDATA ANALYTICS WITH HADOOP *(Java, MapReduce, PIG, HDFS)*

- Implemented MapReduce jobs for variety of analysis on sample data for single node configuration on Cloudera Virtual Machine. Extensively used Combiner and Partitioner. Also, worked with PIG for data analysis.

EFFICIENCY OF PRIORITY QUEUES *(C++, Memory Management, Data Structures)*

- Implemented priority queues using arrays, heaps and specialized heaps. Published two papers.
- Presented a paper on a way to reduce the time needed in creating the priority queues, using a memory pool significantly reducing the time needed in queue generation by almost 75%.

JAVA DEVELOPMENT, SSI *(Java, J2SE, J2EE)*

- Developed a Text Editor desktop application and various enterprise web applications using Servlets, JSP, Struts and Hibernate.
- Developed Session Beans, Wrote SQL Queries and integrated them. Implemented triggers, packages, procedures and functions using PL/SQL.

LEADERSHIP AND VOLUNTEERING WORK

Training at Lions District Leadership Workshop 2015, The International Association of Lions Club, District 323 G-1

- Training on Change Management, Communication, Conducting Effective Meetings, Mentoring Program, Creative Thinking, Focused Discussion, Evaluation.

Volunteer work at AWGP and IWWA

- All World Gayatri Pariwar is a living model of a futuristic society, volunteered in organizing several human wellbeing programs, rural education drive and taught underprivileged children.
- Volunteered in organizing IWWA (Indian Water Works Association) meetings and agenda finalizing.

Participant at the 24th International Management Conclave, 2015

- Training and Lectures on leadership and management by various business leaders from across the globe.

AWARDS AND ACHIEVEMENTS

- **Academic scholarship,** high school, complete tuition waiver for exceptional performance in academics.
- **Academic scholarship** through awarded graduate assistantship at the University of Illinois at Chicago.
- **Distinction**, Trinity College London, Graded Examination in **Music** Performance, classical guitar.
- Stood amongst top 3 positions in **speed writing**, **Medley Relay Swimming**, **Poetry competitions**.

EXTRA-CURRICULAR ACTIVITES

- Sporadic First Chair **Music Performer** (Classical Guitar, Harmonica, Flute), **Performing arts** (drama)**.**
- Completed a 5-year extensive course studying **German Language** securing an "**A**" grade.

- Sporadic blogger at http://dgupta.us/posts
- All other projects, documentation and source code are hosted at http://dgupta.us/projects