# Kartikey Sachdeva

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## EXPERIENCE

### Software Developer Intern

**IBM** **April 2023 - Present, Toronto**

• Developed a dashboard web app using Angular and MongoDB to display the results of test cases being run in QA, reducing manual tracking of all the tests, by implementing a database to hold the test results.
• Developed capabilities to create Db2-native ML models with SQL stored procedures.
• Opened and contributed to over 100 defects for distributed Db2 architecture system, reviewed code changes from other developers, and delivered over 50 code changes to the GitHub codebase over multiple sprints ensuring e cient and quality code.
• Scheduled education sessions and created documentation for various tools used by the team to help new interns/hires and other teams understand and use the tools more e ciently.
• Wrote various automation scripts in bash to reduce manual work and enhance the workflow of the team.
• Implemented DevOps framework to automate the build, release, deploy and versioning process, reducing deployment time by 40%.

### Computer Engineering Intern

**AMD** **April 2022 - August 2023, Toronto**

• Developed and maintained new features and add-ins for CASH using Perl, Python, and Java to help extend the functionality of the company's product. Helped the company's metrics along with providing capabilities for testing teams to run various functional and stress testing.
• Lead development efforts between cross-functional teams such as Analytics, AI, Stress Testing and Functional Testing with various machine learning models.
• Developed a C-shell to consolidate millions of chip violation reports, achieving a 95% reduction in manual effort. Enhanced e ciency to 98% by implementing the database in Azure.
• Optimized the Constraints Audits timing process by evaluating various combinations of complex runs using TileBuilder. Identified and implemented the fastest route, resulting in measurable improvements for the timing team.
• Conducted user research sessions to understand and improve user experience, with a 95% approval rate on the changes made.

### Project Management Intern

**Honda** **April 2021 - August 2021, Alliston**

• Adhere to production schedule to produce 435 cars per shift by attentively performing line speed work.
• Demonstrate leadership skills by performing department head duties in the zone by collaborating with the maintenance department for required equipment maintenance, to help prevent down time.
• Responsible for training and mentoring more than 20 new associates with a focus on product quality and Move Smart techniques.
• Resolve technical issues using mechanical tools, engineering knowledge, RCA (Root Cause Analysis) and skills to retain 100% quality of the product.
• Developed and installed a holder for tapping screws at workstation to improve area safety, organization, deliver and maintain high quality work while reducing repair cost.
• Created and implemented new binder and organized the work area by utilizing and installing in-house scrap metal brackets organizing each process operation standard.

### Computer Engineering Intern

**E. Hofmann Plastics** **April 2020 - August 2020, Orangeville**

• Improved user experience by implementing new features based on customer requirements, reducing the product development cycle by the quarter.
• Developed automation machine programs in C shell, and configured cameras for the company using python.
• Troubleshot automation machines, including Gabler Thermoforming machines (German) and Husky Hyeletric Injection molding Machines, completing more than 100 repairs.
• Assembled a system of digital signage monitors to display live production stats, allowing managers to track performance with real-time continuous feedback.
• Involved in the Installation and Commissioning of Meaf Extrusion Machine where I independently completed the electrical wiring of the machine and electrically interfaced the Meaf Extrusion Machine with Thermoforming M98 Machine.
• Helped install high level automation lines which can produce 60,000 cups per hour.

## PROJECTS

### StreetMap

• Engineered APIs for swift loading (under 10 seconds) of a detailed directed, weighted graph encompassing streets, points of interest, intersections, and land features.

• Collaborated with the team to integrate Dijkstra's algorithm, pinpointing the shortest path between two intersections in a rapid 80 milliseconds via source node selection and backtracking.
• Achieved a 73% speed enhancement over the suboptimal solution for the Travelling Salesman problem by synergizing greedy, 2-opt, and multi-start algorithms.

### Priority Healthcare

• Designed and implemented a patient prioritization website using Python, streamlining hospital workflows by classifying patients based on the severity of their conditions.
• Conducted data analysis utilizing Python frameworks such as NumPy and Pandas. Enhanced expertise in NLTK corrector, Python, HTML, Django, and the Google Cloud Natural Language API.

### Credits Reward Program

• Developed a reward points calculation system to compute monthly points based on credit card purchases.
• Utilized JavaScript to implement a HashMap for multi-rule reward calculations, optimizing points for each merchant transaction by evaluating various rule priorities and combinations. Employed ReactJS for frontend development.

### SuperPose

• Engineered a virtual workout assistant application during COVID, leveraging Python's TensorFlow and ReactJS, to guide users in maintaining proper exercise form.
• Integrated the PoseNet Model, enabling real-time pose estimation as users position themselves in front of the camera.
• Processed user images through a pre-trained model for accurate feedback.
• Employed the ResNet architecture with a flipHorizontal parameter, ensuring pose visualizations maintain the correct orientation when activated.

## EDUCATION

### Computer and Electrical Engineering

Minor in AI • University Of Toronto (St. George Campus) • Toronto • 2024

## COURSEWORK

Electrical Fundamentals, Computer Fundamentals, Digital Systems, Programming Fundamentals, Computer Organization, Software Design, Fundamentals of Machine Learning, Intro To AI, Algorithms and Data Structures, Computer Networks, Computer Hardware, Control Systems, Digital Electronics, Software Engineering, Intro To Machine Learning, Introduction to Databases, Programming on the Web

## SKILLS

**Programming: Python, Java, Javascript, Groovy, DB2, SQL, SparkSQL, HTML/CSS, React, Perl, C++**
**Platforms / Tools: Git, Jira, Jenkins, Docker, Tensorftow, ResNet, Hadoop, AWS**
**Development Environment: Google Cloud, Eclipse, PyCharm, Visual Studio, Jupyter Notebook**