# Khushi Mehta

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## EDUCATION

**University of Waterloo,** Waterloo, ON, CA
Master of Management Sciences — Sep. 2022 – Present
**Relevant Coursework:** Quantitative Data Analysis, Operations Research, Operations & Supply Chain Management, Sustainability Management, Sustainability Management, Human-Computer Interaction, Big Data Analytics, Applied Economics for Management, Organizational Behaviour

**Fr. Conceicao Rodrigues College of Engineering,** University of Mumbai, Maharashtra, IN
B.E. Production Engineering — Aug. 2017 – Aug. 2021
**Relevant Coursework:** Production and Operations Management, Finance Management, Process Engineering, Manufacturing Engineering, Metrological and Quality Engineering, Database Management

## PEER-REVIEWED PUBLICATIONS

- **Mehta KM**, Kumar Pandey S, Shaikh VA, "Unconventional Machining of ceramic matrix Composites – A review" *Materials Today: Proceedings ELSEVIER, Volume 46, Part 17,* (2021): 7661-7669.

## AWARDS & HONORS

- University Rank 1, Final Year B.E. Production: Score 92.84% — 2021
- Class Standing – 4th: Top 5% of the class. — 2021
- Mechathon 2021: Recipient of monetary prize for achieving 1st position districtwide for 48-hour Mechathon — 2021
- Certified Badge: Specialization in CAD and Digital Manufacturing by Coursera and Autodesk — 2021
- Scholarship: Recipient of monetary prize for obtaining the highest score of 90/100 in English language at the Secondary School Certificate Board Examinations — 2015
- French Olympiad: 42nd rank holder (worldwide) and 27th rank holder (state level) in IFLO with a score of 95.7/100. — 2014

## WORK EXPERIENCE

**University of Waterloo,** Waterloo, CA
**Teaching Assistant, Management Sciences Department** — Sep. 2023 – Present
*Quality management, quality control (TA under Dr. Mahta Mortazavian, Professor)*
- Graded assessments and provided feedback to students on exams, and projects
- Engaged with students and resolved their queries related to coursework and course content

**Campus housing – University of Waterloo,** Waterloo, CA
**Move-in co-ordinator (volunteer management)** — Aug. 2023 – Sep. 2023
*MS Office 365, demand planning, people management, scheduling*
- Overlooked end-to-end volunteering and student move-in operations, provided training and orientation, scheduling, continuous on-site support, information monitoring, and proactive management of updates to ensure seamless execution during the move-in period.

**AnshUdhami Entertainments,** Pune, IN
**Back-end Management Intern** — Jan. 2022 – April 2022
*MS Office, Marketing, Management*

- Managed the event calendar of collaborated live music venues affiliated with the company.
- Involved in the problem-solving, and management of the backend processes and teams for thesuccessful running of each event.
- Maintained the records and profiles of the artists that got affiliated during my tenure with the company.
- Managed invoices and payments between the artists and the venues as mediated by the company.
- Overlooked the marketing content for events.

**School of Music and Performing Arts,** Pune, IN
**Business Analysis Intern** Aug. 2021 – Nov. 2021
*MS Office, Tableau, Data Analysis, Marketing*

- Worked with the administrator to increase the business of the academy by creating a curriculum suitable to different schools having different structures.
- Studied the admission data, analyzed the present data via visual graphs, and incorporated ideas to increasenew admissions and sustain previous admissions.
- Generated and monitored visualizations to understand curriculums that worked and didn't for different schools and students subjectively to restructure to improve the business.
- Contributed to developing the marketing material for the academy.

**Kansai Nerolac Paints Ltd.,** Mumbai, IN
**GET – Corporate Planning** Aug. 2021 – Oct. 2021
*Paint manufacturing, MS Office, SAP, Data Analysis*

- Managed production volume data of paints and chemicals to generate accurate data analysis reports.
- Conducted gap analysis of data and information for the S&P global corporate sustainability assessment.

**Dow Chemical International Pvt. Ltd.,** Mumbai, IN
**Project Intern** Dec. 2020 – May 2021
*Chemical manufacturing, Thermal & Fluid Engineering, Computational Fluid Dynamics, FEM, CAD, Neural Networks*

- Undergraduate research thesis on 'Unloading Time Reduction of Viscous Polyols', designed CAD models of ISO Bulk tanks, defined sections of each design part, and identified bottlenecks in the project.
- Study and simulations of polyol in response to temperature, time, and gravity were conducted by transient thermal analysis and computational fluid dynamics (CFD) using FEA software (ANSYS).
- Helped reduce the unloading time of viscous polyols thereby resulting in a reduction of non-value-based manpower leading to manpower reduction and an increase in profit generation.

**Divine Chemical Company,** Ratnagiri, IN
**Plant Development Intern** Aug. 2020 – Oct. 2020
*Chemical manufacturing, plant designing, Solidworks, Reactor vessels, MS Office*

- Created CAD models of chemical reactor vessels on Solidworks with industrial specifications.
- Procured data and generated reports on different methods of manufacturing phenols, statistics of import and export of phenol, industrial usage of phenol, derivatives, and applications.

## PROJECTS

**Comparison of different Supervised Machine Learning Algorithms to detect Payment Frauds,** Waterloo, ON
**Associated with the University of Waterloo**, ON May 2023 – Aug. 2023
(Principal Investigator: Dr. Lukasz Golab)
*Credit card fraud detection analysis, ML, python, big data analytics*

- Developed Python code using open-source libraries to clean, train, validate, and test 3 datasets.

- Executed explanatory data analysis, developed correlation matrix, box plots and plotted histograms for outlier detection.
- Generated accuracy, precision, recall, cohen-kappa score, f1-score, ROC-AUC using various machine leaning models.
- Used SMOTE technique for highly imbalanced datasets and re-generated the results along with XGBM, LGBM and randomized search XGBM.
- Compared results based on various metrics to understand the best model fit for a particular dataset.

**Lean Manufacturing Case Study,** Waterloo, ON
**Associated with the University of Waterloo,** ON June 2023
(Principal Investigator: Dr. Peter Carr)
*Shop floor layout and planning, space optimization, introduction of technology, inventory planning*

- Analyzed the current approach set by the company and listed processes that are consistent and non-consistent with the lean approach.
- Proposed lean process flow by optimizing inventory and using vertical stacking to reduce occupied floor space.
- Introduced conveyor belt across the shop floor for easy movement of materials reducing non-utilized manpower.
- Increased inspection and assembly stations for optimized process flow across all the sections to reduce buffer inventory.
- Introduced regular training and skill development sessions, employee promotions and standardizations of process flows to achieve a lean approach.

**Operating System Design Case Study,** Waterloo, ON
**Associated with the University of Waterloo,** ON May 2023
(Principal Investigator: Dr. Peter Carr)
*Process flowchart, process planning, quality control, customer service*

- Listed various attributes from the customer viewpoint and developed an operating system for the delivery segment of the Real Canadian pizza company.
- Created an end-to-end process flowchart from order placement to customer feedback focusing intensively on the back-end process assuring high quality.
- Discussed operating system human elements consisting of employee roles, management, motivation, and positive work environment to achieve efficient operations to maintain exceptional customer service.
- Developed performance metrics to measure areas of performance improvement regularly.

## LEADERSHIP & VOLUNTEER EXPERIENCE

**Group Facilitator,** International Peer Community, University of Waterloo May 2023 – August 2023

- Facilitated orientation, meet, and greet sessions for more than 120 students by encouraging them to participate in social activities leading to student development.
- Led a team of 12 students by planning and executing individual meetings to help students get involved in the community.
- Assisted various students by helping them navigate various UW resources available both on and off campus.

**Guest Mentor and guide, Crescendo (Technical Fest),** Fr. CRCE, IN March 2022

- Invited as a mentor for ‘Mechathon 2022’ competition to guide students with given problem statements to help them achieve breakthroughs in the competition thereby helping them to instill and improve their problem-solving capabilities.

**Chairperson,** IIIExCRCE**,** Fr. CRCE, IN Aug. 2020 – June 2021

- Lead a team of 15+ students and organized 6+ national-level webinars with more than 700 live participants.

**Vice-Chairperson,** IIIExCRCE**,** Fr. CRCE, IN July 2019 – Aug 2020

- Lead a team of 15 and organized an industrial visit at Indian Railways for more than 70 students and 3 faculties.
- Organized a webinar for graduating students and curated events for 500+ students and 50+ faculties.

- Managed an INR 20,000 yearly budget, procured from membership registrations and event earnings.

**Documentation In-charge,** IIIExCRCE**,** Fr. CRCE, IN July 2018 – June 2019

- Created and maintained reports and documents to keep track of all the activities which were widely recognized by professors based on 3 seminars, 2 visits, and 3 events held year-round.

**Executive member,** IIIExCRCE**,** Fr. CRCE, IN Nov. 2017 – July 2018

- Organized an industrial visit to Mazgaon Dockyard and 2 events, which showcased my organizational skills with innate capacities and capabilities.

## PERSONAL PROJECTS

**Six Sigma application on quality improvement of stainless-steel straws, Yellow Belt** Feb. 2022

- Created a project charter to improve the quality of stainless-steel straws and described a problemstatement.
- Explained the business case and goal statement using SMART along with improvement goals which considers two specific success measures.
- Described the process in which the problem existed and developed the project scope.
- Mentioned the key stakeholders and the team members along with the development of a timeline using DMAIC model.
- Created a team charter comprising rules to be followed by the team to achieve the targets in an efficient manner.
- Developed a data collection plan by mentioning the CTQ, metrics, collection method, analysis tools, sampling plan and sampling instruction to avoid any flaws.
- Generated a step-by-step process map and developed a hypothesis before and after improvement.

**Created compressed biogas plant (CBG plant) to generate energy from waste, Mechathon 2021** Mar. 2021

- The given problem statement was taken from the Government of India to take one step towards sustainable energy.
- Planned, prepared, engineered and executed the project which included storage of raw material, operation and maintenance of the plant, maintaining final product output quantity and quality and managing the by-products and wastes from the plant.
- Researched and located the CBG plant as per topography, climate, urbanization, etc.
- Estimated Plant building time.
- Researched and created the mechanism used for processing and generating biogas.
- Created a logistics network for waste collection by optimizing transportation costs.
- Formulated biogas distribution techniques thereby taking into consideration supply conditions, supply disruptions and safety measures.
- Added novelty to the proposed CBG Plant, created simulations and analyzed the generated data.

## INTERESTS & ACHIEVEMENTS

- Cleared A1 level German language with 78% from Goethe Institute Max Meuller Bhavan.
- Outstanding innovative activity award for creating the best activity for more than 400 engineering undergraduates recognized by IIC.
- Awarded certificate in recognition to pass the Elementary and Intermediate Grade Drawing Examination from the government of Maharashtra (Grade A).

## SKILLS

- **Programming Language:** Basic C++, Basic Python, Basic SQL
- **Software:** Tableau, PowerBI, MS Office 365, Solidworks, Fusion 360, AutoCAD, Siemens NX, ANSYS, Basic SAP
- **Industrial:** Process planning and engineering, production and operations management, finance management, OSHA, TQM, Lean and agile manufacturing, ERP, production planning and control
- **Certifications:** Project management, Supply chain management specialization, python, six sigma yellow belt

specialization, excel intermediate, digital marketing