
SUDHAN BHATTARAI

Pueblo, CO, USA, 81001

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Profile: <https://sudhan-bhattarai.github.io/>

EDUCATION

- Degree: **Master of Science**
Major: **Industrial & Systems Engineering**
Colorado State University-Pueblo, Pueblo, CO.
Graduation date: May 2021 (Expected)
 - Degree: **Bachelor of Engineering**
Major: **Industrial Engineering**
Tribhuvan University, IOE, Kathmandu, Nepal.
Graduation date: May 2017
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AREAS OF INTEREST

- *Optimization (Linear & Non-linear)*
 - *Artificial intelligence & machine learning*
 - *Data science & analytics*
 - *Healthcare applications & analytics*
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EXPERIENCE

- ✓ **Colorado State University-Pueblo, Department of Engineering, Pueblo, CO, USA, 81001.**
Graduate Research Assistant (Aug 2019 - Present)
 - Areas of research: Operations Research, Data Science, Machine Learning and Healthcare Applications.
 - Conducted research on home-healthcare nurses routing (HHCR) problem with Mixed Integer Programming (MIP) and Deep Learning approaches.
 - Developed a Simulated Annealing heuristic to solve the single period, static & deterministic HHCR problem with bigger instances.
 - Developed a new algorithm to address mainly the dynamic nature of patients to build routing plan with an objective of maximizing the total visits.Graduate Teaching Assistant (Aug 2019 - Present)
 - Tutoring, mentoring, and grading of classes & labs for bachelor's courses of EN 107 : Engineering Graphics, SOLIDWORKS, and EN 211: Engineering Mechanics.
 - Volunteering academic exhibitions.Teaching Instructor (Aug 2020 – Present)
 - Lecturing, monitoring and grading of bachelor's classes and labs of 'EN 101 : Introduction to Engineering'.
 - ✓ **Morang Auto Works, Kathmandu, Nepal.**
Sales Engineer (Nov 2017 – Jan 2019)
 - Analyzed sales data for planning purpose with Data Analysis, Statistical Analysis and Operations Research techniques.
 - Worked as a technical sales representative to promote the business and boost client relationship.
 - Organized and participated in multiple business expos.
 - Collaborated with and led the team of sales executives to build and deliver the plan effectively.
 - Main tools used are MS Dynamics NAV (ERP), TABLEAU, SQL and MS Excel.
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PUBLICATIONS

- Bhattarai, S., Wollega, E. (2020). A 0/1 Knapsack Problem to Optimize Shopping Discount under Limited Budget. *5th North American IEOM Society International Conference*. (Processing)
- Bhattarai, S., Correa-Martinez, Y., Wollega, E., Bedoya-Valencia, L. (2020). Building a Prediction Model for Forecasting Adult Care Facility Quarterly Patient Demand. *5th North American IEOM Society International Conference*. (Processing)

COMPUTER SKILLS

- Programming: **Python** (Advanced skills on Data Science, Machine Learning and Deep Learning), **MATLAB/Octave, C.**
- Engineering Design: **AutoCAD, SOLIDWORKS.**
- Optimization: **Gurobi** (Advanced skills on linear optimization and integer programming), **Cplex, LINGO.**
- Data/Visualization: **SQL, Minitab, TABLEAU.**
- Simulation: **Arena** (Advanced), **Simio.**
- Web: **HTML/CSS**
- Documentation: **LaTeX**

PROFESSIONAL SKILLS (boosted by professional experience)

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| • <u>Communication</u> :
Excellent in both written and oral communication | • Great <u>interpersonal skills</u>
• Good <u>leadership</u> quality
• Excellent <u>analytical insight</u> | • <u>Multitasking</u>
• <u>Time management</u>
• <u>Teamwork</u> |
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LANGUAGE

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| • <u>English</u> :
Very good in reading/writing. Good in speaking. | • <u>Nepali</u> :
Fluent |
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GRADUATE COURSES

- BUSAD 591: Data Analytics (SPECIAL TOPICS) [3]
EN 571: Operations Research [3]
EN 575: Facilities Planning and Design [3]
EN 513: Artificial Intelligence [3]
EN 520: Simulation Experiments [4]
EN 577: Operations Planning and Control [3]
EN 591: Applied Deep Learning (SPECIAL TOPICS) [3] (Ongoing)
EN 593: Graduate Seminar [2] (Ongoing)
EN 599: Thesis Research [6] (Ongoing)
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