

Usha Silwal

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SUMMARY

Newly minted MSc in Civil & Environmental Engineering (Dec 2020), with over 2 years overseas field experience helping urban and rural communities implement sustainable environmental water practices, through testing, technologies, and computer modeling methods.

EDUCATION

Master of Science in Civil and Environmental Engineering December 2020
Carnegie Mellon University - Pittsburgh, Pennsylvania USA

Bachelor of Technology in Environmental Engineering September 2017
Kathmandu University - Dhulikhel, Nepal

PROFESSIONAL EXPERIENCE

Sustainability Initiative Intern - Carnegie Mellon University, Pittsburgh, Pennsylvania USA 6/20-8/20

- Conducted Voluntary University review by analyzing various activities of CMU using Tableau as data analysis tool, to understand how Carnegie Mellon University meets UN Sustainable Development Goals

Environmental Engineer - SmartPaani Private Limited, Pulchowk, Nepal 2/18-7/19

- **Team Leader** for group of 48 people, for design and implementation of filtration technologies for groundwater, rainwater, stormwater, and wastewater treatment for projects throughout Nepal
- Created access to clean, safe drinking water through installation of water filtration equipment, construction of water stations, and initiated public health and hygiene education programs to serve 23 children's schools
- Awarded "**Outstanding Women Engineer**" for research, development, and leadership in water sector

Water Engineering Intern - Guheshwori Wastewater Treatment Plant, Bagmati Road, Nepal 8/17-12/17

- Assessed treatment plant performance by calculating Total Solids, Total Suspended Solids, Total Dissolved Solids, BOD, COD and Phosphate using laboratory and sampling techniques
- Applied performance assessment with **AutoCAD** to provide plant redesign yielding 70% improvement in removal efficiency

Citizen Scientist - S4W Nepal, Lalitpur, Nepal 4/17-1/18

- Prepared technical reports, sub-contractor bid proposals, cost estimates, engineering design drawing, remedial alternative evaluations, basis of remedial designs, technical design of **remediation** methods
 - Field Oversight of Site Contractors to execute remediation projects of storm and sanitary sewers, and wastewater treatment systems
 - Performed simulation in **HEC-RAS** to generate water surface profiles of Bagmati River for various designed storm events
 - Collected water quality and water discharge data of stone spouts of Kathmandu District to analyze effects of land use change in water quality and flow rate over years using **ArcGIS** and **Python**
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SKILLS

Application Software: **AutoCAD**; SOLIDWORKS; OGIS; **ArcGIS**; ERDAS Imagine; Python; MATLAB; SQL; Linux; MS Office Suite; Tableau; MODFLOW; HEC-RAS; HEC-HMS; Visual MINTEQ

HONORS

Carnegie Mellon University CEE Department Merit Scholarship - Fall 2019-20; Harold A. Thomas Tuition Scholarship - Fall 2019-20; Francis C. McMichael Tuition Scholarship - Fall 2019-20; Japan SAKURA Science Fellowship - Fall 2017; **Greenovation Startup Challenge Winner** - Fall 2016