Avirup Kar

47 North Edgely Avenue, Toronto, Ontario | 416-889-4739 | a4kar@edu.uwaterloo.ca

Summary

I am a fourth-year civil engineering student graduating in May 2018 with over two years of industry experience in consultancy, engineering, project management and construction services. Areas of expertise include technical evaluation, maintaining and building client relationships, and project implementation. I have been recognized for my robust analytical skills, commitment to excellence and strong communication skills whilst working in a team.

Experience

GEOTECHNICAL ENGINEERING INTERN | ARUP | SEPTEMBER 2017 TO DECEMBER 2017

- Assisted in the tender design for Stage 2: Ottawa Light Rail Transit (Confederation Line Extension East and Confederation Line Extension West) construction including tunneling, surface tracks/stop construction and elevated guide way construction.
- Assisted in the tender design for Hurontario Light Rail Transit including surface tracks/stop construction, elevated guide way construction and maintenance and storage facility.
- Analyzed laterally loaded pile foundations on LPile for Edmonton Valley Line LRT – Grierson Hill Structures: Deep Stabilization Measures.
- Analyzed pre-construction and excavation design scenarios for a proposed Rock Berm on Slope/W to evaluate the local and global stability for Grierson Hill Structures: Shallow Stabilization Measures.
- Assisted in Geotechnical Interpretative Report (GIR) - Grierson Hill North River Bank Portal for Edmonton Valley Line LRT by performing various analysis on Plaxis 2D.
- Preformed analysis on Oasys Alp of Overhead Catenary Systems (OCS) pole foundations based on revised capacity loads for Edmonton Valley Line LRT to determine pile head deflection, maximum bending moment, maximum shear and pile head maximum rotation.

ENGINEERING INTERN | AMEC FOSTER WHEELER | JANUARY 2017 TO APRIL 2017

- Created design options on SLOPE/W for a Coal Ash Landfill Expansion Area to evaluate the slope stability near the Lambton Generating Station for Ontario Power Generation (OPG).
- Assisted in a proposal for Highway 401 Rail Tunnel project to replace footings of retaining walls and to construct a second tunnel under Highway 401/409.
- Created a technical memorandum to assess the infiltration rates based on a sensitivity analysis conducted on SEEP/W near the Kidd's Mine for Glencore plc.
- Produced weekly reports for Quality Assurance (QA), Quality Control (QC) and Piezometer Reponses and Interpretation on various dams for New Gold Inc.'s Rainy River Project.
- Assisted in the Quarterly Inspection Report for El Limon Guajes Mine in Mexico to investigate and review quality control test data as well as providing recommendations on further construction of tailings dry stack (TDS).
- Assisted in Côté Gold Project pre-feasibility study by performing material take-offs (MTOs) for Tailings Management Facility (TMF) and various stockpiles (i.e. low-grade ore, overburden and mine rock area).

ENGINEERING INTERN | AMEC FOSTER WHEELER | MAY 2016 TO AUGUST 2016

- Assisted in geotechnical investigations for New Gold Inc.'s Rainy River Project, Detour Gold Corporation's Lake Mine Project, and Greenstone Gold Mines GP Inc.'s Hardrock Project.
- Performed Cone Penetration Tests (CPTs) interpretation to calculate corrected tip resistance, effective vertical stress and undrained shear strength and maximum past pressure.
- Performed CPT dissipation analysis to calculate equilibrium pore pressure (u_{eq}) and estimated coefficient of consolidation (c_h) using Mayne's equation (2007).
- Performed Nilcon Vane interpretation to calculate the post peak shear strength behaviour of soil.
- Performed index properties' calculations to provide correlation between moisture contents, elevations, stratigraphic units, and grain size distributions.
- Performed visual logging of discontinuities such as slickensides and fissures on Shelby tube samples.
- Assisted in memorandums and reports for Plant Sites, Tailings Management Areas, and Mine Closure Plans.

ENGINEERING STUDENT | CITY OF MARKHAM | SEPTEMBER 2015 TO DECEMBER 2015

- Developed and implemented five instruction manuals about Backflow Prevention submission system.
- Assisted in determining the success of a pilot project of increasing chlorine dosage and examining its impacts of residual increase to Markham's distribution system.

ENGINEERING INTERN | ONTARIO MINISTRY OF TRANSPORTATION | JANUARY 2015 TO APRIL 2015

- Co-authored a technical report to summarize information on the quantities and quality of granular materials supplied for road base, sub-base, backfill and other purposes.

  ISBN 978-1-4606-5600-6 (Print); ISBN 978-1-4606-5601-3 (PDF)
- Assisted in remodeling the Ontario Rockfall Hazard Rating System for assigning treatment priorities for sites for stability of rock slopes along the Ontario highways.
- Designed and implemented several gradation acceptance and payment adjustment sheets by writing macros using Visual Basic for Applications (VBA).

Skills & Abilities

PROJECT MANAGEMENT: Complied and presented project management reports detailing changes in scope, schedule, budget and potential project issues. Served as a single point of contact for all internal and external stakeholder(s).

COMMUNICATION: Excellent verbal, writing, and presentation skills obtained from collaborating with diverse group of internal/external stakeholders.

LEADERSHIP: Managed and executed projects and directed subcontractors during project implementation phase.

MULTI-TASKING: Coordinated and executed multiple projects, and provided innovative solutions to complex technical problems.

PROBLEM SOLVING: Collaborated with engineers from various disciplines and professions to analyze and provide solutions to engineering problems.

Education

BACHELOR OF APPLIED SCIENCE IN CIVIL ENGINEERING | MAY 2018 | UNIVERSITY OF WATERLOO

TERM DEAN'S HONOUR LIST | JANUARY 2017 | UNIVERSITY OF WATERLOO