SKANDA VISHNU SUNDAR

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OBJECTIVE

Motivated graduate student seeking full-time opportunities that will require knowledge pertaining to crude oil contaminated soil, microbiology, wastewater treatment and analytical chemistry.

EDUCATION:

M.S. – Civil, Sustainable and Environmental Engineering, August 2020
(Speciality: Environmental) (expected)
Arizona State University, USA GPA: 3.95
Bachelor of Engineering – Civil, May 2018
SSN College of Engineering, CGPA: 7.3/10
Anna University, India (3.1/4)

RELATED COURSEWORK:

Soil mechanics	Environmental Biochemistry	Contaminant fate and transport
Wastewater Treatment	Microbial Bioprocess Engineering	Carbon capture

HIGHLIGHTS:

- Utilized analytical instruments like gas and liquid chromatograph to measure volatile compounds, hydrocarbons, inorganic gases, volatile fatty acids and alcohols and extraction instruments to extract hydrocarbons from soils.
- Worked with software like Microsoft Excel, Word, and PowerPoint to draw figures, write reports and process and present data for my academic projects in project meetings and to industrial sponsors (Chevron).

INTERNSHIP EXPERIENCE:

Chennai Metropolitan Water Supply Sewerage Board, India. **Dec 2016**

- Gained hands on experience in the running of a sewage treatment plant (STP) in a metropolitan city.
- Procured wastewater samples after secondary treatment and performed bench scale lab tests to measure concentrations of wastewater parameters and check their adherence to regulatory norms.

ACADEMIC PROJECTS:

Background Total Petroleum Hydrocarbons (TPH) in Non-Contaminated/Pristine Soils **Aug 2019-Present**

- Collaborated with Chevron energy and technology to measure background TPH concentrations in uncontaminated soils from across the USA and other countries and compare them with crude oil contaminated soil.
- Extracted TPH following the EPA protocols and fractionated the total TPH into aromatic and aliphatic components.
- Determined the properties of the pristine soils that contribute to the background TPH concentration to help improve regulatory framework.

Biofuel production via microbial chain elongation, Arizona State University **Jan 2019-Jul 2019**

- Employed anaerobic mixed cultures to elongate shorter chain carbon compounds to medium chain fatty acids like caproate and alcohols like butanol.
- Conducted a bench scale bioreactor study to determine the optimum ratio of the substrates for the maximum productivity of medium chain fatty acids and alcohols.
- Collaborated with LightWorks, ASU and performed a literature study on chain elongation and submitted a report as a part of a larger feasibility study that investigated coupling of solar thermochemistry with microbiology to capture and transform carbon to produce biofuels sustainably.

Degradation of nitrate & land application, SSN College of Engineering. **Dec 2017 – Mar 2018**

- Led a team of four to measure the kinetics of nitrate reduction in domestic wastewater and tannery effluents.
- Performed anaerobic treatment at various temperatures to find out the optimum temperature using bench scale microcosm studies.
- Performed column studies to determine the changes in soil physical properties due to short term exposure of tannery effluents on natural soil.

EXTRACURRICULAR ACTIVITIES:

- Participated on the day of the community outreach program ASU Open Door in 2019 and 2020 to inform the public about bioremediation and ongoing research efforts.
- Worked in the local chapter of National Service Scheme (NSS) and organized and participated in various clean-up programs in beaches and forests in Chennai, India.
- Volunteered in the Environmental Foundation of India (EFI) and participated in awareness outreach programs.
- Secured top 1 percentile grade in the NPTEL certification exam for the course “Integrated Waste Management for a Smart City” conducted by Indian Institute of Technology (IIT), Kharagpur.