

# Sid (Siddhartha) Gupta

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🔗 <https://bitsandatoms.github.io>

## Summary

Currently, working as a Scientific Application Developer with a startup in the human aging industry. I began my career as an engineer with a global refiner before relocating to Texas to further my education. In 2019, I graduated with my PhD in chemical engineering from Texas Tech University (TTU).

## Experience



### Scientific Applications Developer

Jan 2020- Present

NemaLife, Inc.

R&D of automated drug screening robots that enable biotechnologists

# Programming GUI enabled interface for lifespan/mobility analysis of microorganism cultures.

# Integrating sensors to software for automating NemaLife's microfluidics device platform

# Troubleshooting client issues, maintaining git repository and doing bugfixes.

# Development of AI/ML/regression tools for getting scientific insights from physiology data



### Graduate Research Assistant (GRA)

Dec 2015 - Dec 2019

Texas Tech University

4 years 1 month

# Researched digital holography microscopy for microcapillary flows and rheology for complex fluids



### STEM Coach

Jul 2015 - Jul 2019

Texas Tech University

4 years 1 month

# Instructed > 200 kids (K-12) about engineering and research opportunities.

# Collaborated with the director of Engineering Opportunities Center and ex-Dean of engineering.



### Graduate Teaching Assistant (GTA)

Aug 2015 - Dec 2016

Texas Tech University

1 year 5 months

# CHE 5310 – Designed subsection on Laplace transforms, lectured and graded 30 graduate students

# CHE 4232 – Unit Operations laboratory : I was responsible for instructing about 40 UG cohorts

# CHE 3232 – Chemical Eng. Transport laboratory : I was responsible for instructing 40 - UG students



### Field Engineer

Aug 2012 - May 2014

Reliance Industries Limited

1 year 10 months

Plant operations for a global refiner (Forbes ranking #71 in 2020)

# Field & DCS Engineer with PRACTICAL and real time HANDS-ON process operations experience

# HAZOP, HAZID, P&ID, Highly Toxic Material Handling (HTM), DCS Panel Operation, LOTO, Permit Mgmt., Hydrocarbon processing and accounting, Equipment startup, shutdown and changeover

# Youngest engineer participant in early commissioning stage of new Ethylene Oxide Plant representing capital investment to the tune of USD \$ 80 M



## Research Intern

Jun 2011 - Aug 2011

Tata Steel

3 months

Coke oven quality control (QC) at one of world's biggest steel makers

# Carried extensive experimentation to model variations in coke strength after reaction (CSR) in 2 months time

# Successfully presented final project to Director (coal and coke R&D) Tata Steel



## Pilot Plant Trainee

Jun 2010 - Jul 2010

Ipca Laboratories Limited

2 months

# Pilot plant trainee for batch processes in a pharma facility manufacturing API's for the US, Europe and African markets.

## Education



### Texas Tech University

2014 - 2019

Doctor of Philosophy - PhD, Holography and rheology

Thesis : Rheology of complex fluids and kinematics of complex flows

# Holography enabled 3D visualization of viscoelastic fluids in diverse microchannel geometries with holography to quantify shear/extensional rheology and to characterize wall slip.

# Provide holographic 3D visualization of viscoelastic extensional flows in hyperbolic microfluidic geometries

# Provide holographic 3D visualization of purely elastic instabilities in serpentine microfluidic channels.

# Development of an automated-disposable microfluidic viscometer for complex fluids



### Indian Institute of Technology, Roorkee

2008 - 2012

Bachelor of Science - BS, Chemical Engineering

## Skills



Python • Holography • Rheology • Automation • C# • Java • Microsoft SQL Server • Machine Learning

## Honors & Awards

**APS FGSA Travel Grant for Excellence in Graduate Research** • Amer. Phy. Soc. • Jan 2019

**SOR Student travel grant** • Society of Rheology • Oct 2017

**TTU Grants in Aid** • Graduate School TTU • Jul 2017

**Helen DeVitt Jones fellowship** • Helen Jones foundation • Jul 2016

**Whitacre distinguished engineering student** • College of Engineering • Jul 2016

**Gene Steel CE Scholarship** • Edward E. Whitacre Jr. College of Engineering • Jul 2015

**State Bank of India Meritorious Scholarship** • State Bank of India • Jan 2011