Dear Sir/Madam,

I, Gaurav Singh, am a recent graduate student from University of Arizona with my Master's in Mechanical Engineering and I am interested in applying for the position as a full time engineer. Please accept the attached resume as my formal application for the position at your esteemed organization. The position is very exciting to me as I have been looking for a challenging opportunity that would allow me to work in my areas of interest.

At the university, I have designed, developed and manufactured a noval solar cooker design and even worked to develop more efficient model description of AC electro kinetics for optimal electrode configuration. Along with the mentioned project, I have even worked on other academic projects specialized in designing and simulations, giving me an extensive knowledge of designing software. Before joining university, I worked as an intern in a HVAC system manufacturing and installation company. I have more than 3 year of R&D (Design and stress simulations) experience through my Master's and Bachelors of Engineering and hand on experience in workshop for more than 5 year dealing with different type of CNC, Milling machine and various other heavy machinery in a workshop. I am someone who is very good at multi-tasking and handling people of different background. I believe in commitment without any compromises. I believe that my research experience, education and previous work experience make me a candidate worthy of consideration. I am also willing to relocate without any additional relocation benefits.

I look forward to your reply. Thank you for your time and consideration.

Sincerely,
Gaurav Singh

Gaurav Suresh Singh
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1333 N Tyndall Ave., Apartment# 115
Tucson, Arizona 85719, USA

OBJECTIVE

Looking for a position as an entry level engineer in a progressive and dynamic environment where my resourceful experience and academic skills will add value to organizational operations.

EDUCATION

- **Master of Science in Mechanical Engineering** **Dec. 2013**
  University of Arizona, Tucson, Arizona **GPA: 3.22**
- **Bachelors of Engineering in Mechanical Engineering** **May 2010**
  University of Mumbai, Mumbai, India **GPA: 3.2**

SKILL SET

- **Software Tools**: SolidWorks, Pro/E**,** AutoCAD, Ansys, ANSYS Workbench**,** CFD, Fluent, Energy Plus, SAP, Microsoft Office suite.
- **Programming knowledge:** C, C++, Matlab.
- **Operational Experience:** CNC, Metalworking Lathes**,** Horizontal and vertical Milling Machines**,** Drill press**,** Gas metal arc welding**,** Carpentry work.
- **Highly skilled in manual drafting of machine jobs**

RELEVANT PROJECT AND WORK EXPERIENCE

Master's Thesis **Aug 2012- Dec 2013**

Small scale solar thermal energy collection and utilization for medium temperature application.

Advisor: Dr. Peiwen Li

The Department of Mechanical Engineering, The University of Arizona, Tucson, USA

- Gathered measurements from a simple box design consisting of big Fresnel lens, stationary central light receiving surface box and a manual sun tracking mechanism. Developed a GPS based sun tracker system with automatic tracking mechanism operated with a small 12V battery or mini solar array.
- Conducted design analysis in Solid works and Ansys, simulating heat and stress behavior, analyzed effects of different parameters, gathered experimental results using prototype and validated simulated results with experimental data.
- New light weight compact body model was designed to incorporate the GPS based solar tracking mechanism. Light receiving surface box was also redesigned for light trapping, absorption maximization, and heat transfer to a working fluid for a higher operating temperature and a higher thermal efficiency.
- Final design was successfully produced thereby verifying all the predicted simulation.
- Along the same line with minor modifications, a Commercial grade solar cooker was produced with an average power consumption of less than 5W, safely operable up to 500°C and reproducible under 175$
- A provisional patent application is undergoing the filing process in the University of Arizona's office of technology transfer for Stationary Central light receiving surface.
- Formal proposal is in the phase of submittal to Environmental Protection Agency (EPA) to fund commercialization of developed Solar Cooker

Work Experience

Teaching Assistant **Feb 2012- Aug 2013**

- Taught a class of 51 French students, topics in Alternate Energy for Aerospace and Mechanical Engineering Internship and Training Program (AMEITP)

Intern, PANASIA ENGINEERING PVT. LTD, Mumbai, India **May 2009- April 2010**

Direct Structural Cooling

- Explored new techniques for alleviating the need for air conditioning by preventing the heat from penetrating a structure.
- Designed and implemented techniques for constructing "Hydronic Radiant Cooling System".
- Employed PEX (Cross linked polyethylene) pipes within the structure walls and incorporated a large reservoir of water.

Academic Projects

Experimental and analytical analysis of Fuel Cells **Oct 2012- Dec 2012**

Advisor: Dr. Peiwen Li

The Department of Mechanical Engineering, The University of Arizona, Tucson, USA

- Designed and produced a variable fuel flow pattern 'Proton Exchange Membrane' fuel cells.
- The safety codes and standards set by the DOE were followed while performing the experiment.
- Executed the simulation of output voltage in MATLAB.

Cryogenic research **Sep 2012- Dec 2012**

Advisor: Lawrence D. Sobel

- Performed analytical analysis on the Stirling cycle for helium liquefaction
- Developed a theoretical liquefaction system for high output hydrogen liquefaction

Working simulation of a 50MW Concentrating Solar Power Plant **Mar 2012- May 2012**

Advisor: Dr.Rocco A. Fazzolari

The Department of Mechanical Engineering, The University of Arizona, Tucson, USA

- Simulated working model of a concentrating solar power plant with output power of 50 megawatts in the city of Jaipur, India.
- All the codes and standards were implemented and followed, set by ***Solar* America Board for *Codes and Standards***.
- Developed a financial portfolio funding the project with aids being received from various financial institutions supporting renewable energy including Government of India
- Technologies used included Microsoft office suite and System Model Advisor (SAM)

Modeling and Prediction of Optimal Electrode Configuration **Aug 2011- Dec 2011**

Advisor: Dr.Cholik Chan

The Department of Mechanical Engineering, The University of Arizona, Tucson, USA

- Developed and implemented a more efficient mathematical algorithm from the present one, which would help aid the description of AC electro kinetics for the mixing, separation, and detection of micro particles in a fluid sample.
- Useful in the medical field for the detection of certain particles that are of interest such as bacteria or viruses.

Additional Information / Extra- Curricular Activities

- Ex-Board member of International Student Association (ISA) at University of Arizona.
- Taught Computers to children for a non-profit school during the graduation semester breaks.
- Completed an Elementary Advance Level Program in a prominent contemporary dance school.
- Worked and volunteered for 'In Defense of Animals' a nongovernmental organization for 3.5 years.
- Event Head for various Cultural and Social events at college.