

# Varun Sonpar Kale

Sustainability | Building Physics | Facade | Numerical Modelling

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## EXPERIENCE

### **AEON Integrated Building Consultants, Noida — Sustainability Consultant**

February 2020 - PRESENT

- Green building consultant for multiple projects with varying typologies.
- Documentation for IBGC and LEED green building certifications.
- Responsible for developing feasibility studies as well as facade and daylight analysis reports.
- Attend regular project meetings, create presentations and coordinate with other parties such as client, contractor and architect to incorporate green measures.

### **Shiv Nadar University, Greater Noida — Research Assistant**

August 2016 - January 2017

Reviewed and composed information for calculating the shear damping effects of soil on seismic waves. The literature and presentation prepared were used to help create an earthquake early warning system.

## EDUCATION

### **Civil Engineering (Building Engg. Track), Delft, Netherlands — M.S.**

September 2017 - July 2019

- ❑ Specialisation in **Building Physics and Technology**.
- ❑ Thesis: "Evaluating the potential of mechanically ventilated double-skin façades to enhance energy efficiency and thermal comfort of office buildings in different climate zones of India through numerical modelling." (GRADE: 9.0)
- ❑ Overall grade: 8.0

### **Manipal Institute of Technology, Manipal, India — B.Tech.**

August 2012 - June 2016

- ❑ Cumulative Grade Point Average: 8.72 (90th percentile)
- ❑ Thesis: "Structural design of a multi-storied apartment building."
- ❑ Advanced courses on Structural Analysis and Finite Element Method of Analysis

### **The Mother's International School, New Delhi, India — Senior School Certificate Examination**

March 2012

- ❑ Subjects: Mathematics, Physics, Chemistry, English, Economic
- ❑ Grade Point Average: 87%

## TECHNICAL COMPETENCIES

**Facade Design:** Detailing, Load Calculation, Maintenance, Fire Safety, Thermal and Acoustical Performance

**Building Physics:** Indoor Climate Design, Thermal comfort (heat, air and moisture), Day Light, Room Acoustics

**Dynamic Numerical Modelling:** Thermal and energy modelling for buildings and facades

**Building Materials:** Concrete, Steel, Structural Glass, Timber and Fibre-reinforced polymers (FRP)

## SOFTWARE APPLICATIONS

**Programming:** MATLAB, Python

**Simulation:** Rhino-Grasshopper, Design Builder (*Building Energy Simulation*), Phoenix(CFD), Therm (2-D Heat Transfer), WINDOW (*Glazing Performance*), DIALux (*Daylight*)

**CAD:** Auto CAD 2-D, Google SketchUp, Rhino

**Others:** Microsoft Office Word, Excel, PowerPoint

## SOFT SKILLS

Public Speaking, Leader, Time Management, Communication, Team Player, Critical Thinking, Decisiveness

## LANGUAGES

English, Hindi, French (studied for 5 years in school), Dutch (A2)

## PROJECTS & INTERNSHIPS

### **Trainee/Researcher — AEON Integrated Building Consultants | November –December 2019**

Using the dynamic simulation methodology of my Master's thesis, a double-skin facade is analysed for a project in Kolkata. The total building heat gain is calculated and compared to the energy calculations used for the evaluation of the original design of the project.

### **AR 0026–MEGA, Multi-disciplinary Studio— Delft University of Technology | April – July 2018**

As part of M. Sc. Curriculum, member of a team to design a high-rise building in the aspects of Architecture, Structure, Façade and Indoor Climate. Personally responsible for the indoor climate and building services which included energy calculations, thermal comfort analysis, elevator design, fire safety engineering and LEED certificate evaluation.

### **Summer Intern — Shiv Nadar University | May – June 2015**

I modelled an academic building using ArcGIS and Google Sketchup software. A total station and a GPS were employed for finding the coordinates and dimensions of the buildings.

### **Summer Intern — Bangalore Metro Rail Corporation Ltd | May – June 2014**

Focused on understanding the construction methodology of underground metro stations and related tunnelling processes.

## EXTRACURRICULAR ACTIVITIES

### **Airtel Delhi Half Marathon — (October 2019)**

Took part in the 10Km run as a charity runner on behalf of "All Creatures Great and Small", an animal shelter organisation. Finished with an overall rank of 155 out of more than 6000 competitors and a category "A" finish time (sub 50 minute).

### **Toastmasters International — (January to July 2017)**

Member at JPKU Toastmasters club New Delhi. Obtained “Competent Communicator” and “Competent Leader” certification.

### **Student Strength Battle — (May 2018)**

Competed in a beginner level powerlifting competition organized by TU Delft Sports and Culture and DSKV IJzersterk.

### **Community Service — (June 2011)**

Helping to educate underprivileged middle-school children as part of the high-school curriculum.

## HOBBIES

**Physical Fitness and Nutrition:** Trained consistently for powerlifting, bodybuilding, and athletics. Completed multiple online courses in nutrition for dieting and sports performance.

**Travelling:** India, The Netherlands, Belgium, France, Spain, Portugal, Nepal, South Africa, Zimbabwe, United States of America, Hungary, Croatia

**Sports:** Football, Badminton, Squash

**Music and Dance:** Classical Flute and Lindy Hop

## REFEREES

**Dr L.C.M. Itard**

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