Bhuvan Kumar GUNESSEE

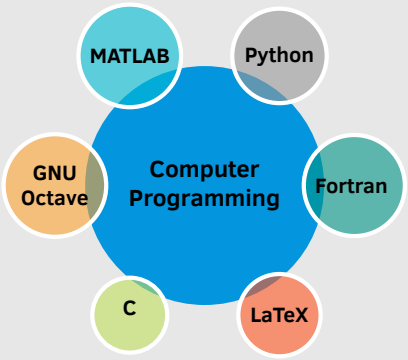
(+33) 668392879

bhuvan.gunessee@gmail.com

/in/bkgunessee/

Echo327

Skills



Familiar OS

- Linux, Windows, Android, and iOS.

Language Proficiency Tests

June 2019 - Cambridge (CAE)
English Language Proficiency Test
Score: 203/210 (C2 Level)

July 2017 - TOEFL iBT
English Language Proficiency Test
Score: 100/120 (C1 Level)

Jun 2012 - DELF B2
French Language Proficiency Test
Score: 64/100 (B2 Level)

Interests

Core Gamer.
Computer Hardware.
Computer Programming.
New Technology.
Maker Culture.

Work Experience

Feb 2018 - Aug 2021 — **Cartography of Asphaltenic Systems: Physico-Chemical Properties and Reactivity** — IPREM-UPPA, Pau

- Atomic Static Polarisability and C_6 calculation.
- ReaxFF Force Field Parameterisation
- Ab Initio Caculations and MD Simulations
- Custom Python Codes for Data Processing and Analysis

Sep 2019 - Jul 2020 — **Teaching Assistant** — UPPA, Pau

- Chemistry Department : 20 h Tutorials ; 30 h Practicals

Feb 2017 - Jul 2017 — **Internship: Atomic Scale Modelling of Ru on Au** — LAAS-CNRS, Toulouse

- Atomic scale modelling of the deposition of ruthenium (Ru) on gold (Au) surfaces for use in supercapacitors
- First principles study (Density Functional Theory, DFT) of the deposition of Ru on Au surfaces either directly (Evaporation, Sputtering, ...) or using Ru-based precursors (Atomic Layer Deposition, ALD).

Jun 2016 — **Internship: Production of photovoltaic cells** — AIME, Toulouse

- Production and test of photovoltaic cells starting from Si wafers.

Mar 2016 - May 2016 — **Internship: Model of the reflectivity of 2D Surfaces** — CEMES-CNRS, Toulouse

- Modelling using MATLAB and GNU Octave of the reflectivity of thin films to allow rapid mapping of thickness at the atomic scale using spectroscopy using Fresnel equations and Transfer Matrix Method (TMM).
- A GUI was developed in MATLAB to allow an end user to dynamically modify the thickness and refractive index (different materials) of the thin films.

Education

2015 - 2017 **Masters in Physics** — Paul Sabatier University(France)

2012 - 2015 **Bachelor in Fundamental Physics** — Paul Sabatier University (France)

2010 - 2011 **HSC Cambridge 'A' Level (CIE)** — Adolphe de Plevitz SSS (Mauritius)
Main: Physics, Chemistry, Mathematics
Subsidiaries: Biology, General Paper

2008 - 2009 **SC Cambridge 'O' Level (CIE)** — Adolphe de Plevitz SSS (Mauritius)
Physics, Chemistry, Biology, English, French, Mathematics, Additional Mathematics

Projects

2016 — **2nd Year of Masters** — Paul Sabatier University
Thesis: Hysteresis in Ising Model (Monte Carlo). Modelling and study of magnetic hysteresis cycles using the 2D Ising model (programmed in Fortran).

2015 — **1st Year of Masters** — Paul Sabatier University
Thesis: Giant Magneto-Resistance, GMR (Case Study). Case study of GMR under simulated laboratory conditions.

2015 — **1st Year of Masters** — Paul Sabatier University
Thesis: Planetary Orbit (Sun to Pluto: 10-body system). Modelling of planetary orbits by resolution of differential equations (programmed in C).

2014 — **3rd year of Bachelor** — Paul Sabatier University
Thesis: Re-Entry of a space shuttle in earth atmosphere. Modelling and study of the re-entry of a space shuttle in earth's atmosphere using MATLAB