Venkata Mukund Kashyap, Yedunuthala

Student

July 16, 1997

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Indian

Languages

- Telugu ●●●●●
- English ●●●●○
- German ●●●○○

Skills

- Programming languages
  - Python ●●●○
  - C++ ●●●○
  - Matlab ●●○○
  - Rust ●○○○
- Libraries/Modules
  - Numpy ●●●○
  - SciPy ●●○○
  - Sphinx ●●○○
  - Doxygen ●●○○
  - CMake ●●○○
  - MPI ●●○○
- Others
  - Git ●●●○
  - LaTeX ●●●○
  - Linux ●●○○
  - Abaqus ●●○○

Experience

08/2023 – 01/2024 — **Student research assistant** — TU Bergakademie Freiberg
Institute for Numerical Mathematics and Optimization.

Focus: Domain decomposition methods
Tasked with assisting the research on non-linear solvers for systems resulting out of differential equations.

Education

2019 – — **M.Sc. Computational Materials Science** — TU Bergakademie Freiberg
Areas of focus: Continuum mechanics, Finite Element Analysis, Micromechanical modelling, Numerical modelling.

Master Thesis — TU Bergakademie Freiberg
Overlapping Schwarz Domain Decomposition Methods in Python with applications in structural mechanics. (Ongoing)

2015 – 2019 — **Bachelor of Engineering** — Osmania University
Mechanical Engineering.

- Bachelor of Engineering in Mechanical Engineering from Chaitanya Bharathi Institute of Technology, Osmania University, Hyderabad, India.
- Graduated First class with distinction.

Projects

11/2022 — **Modeling of radiative heat-exchange using finite element method**
TU Bergakademie Freiberg
Finite Element Analysis | Python

- Complete implementation of finite element model for radiative heat-exchange.
- Newton-Raphson solver for the non-linear system.
- Full documentation using sphinx.

04/2022 — **Gradient Boosting Machine with Local Regression to predict material properties.**
TU Bergakademie Freiberg
Machine Learning | Ensemble methods | Python

- Native implementation using Numpy, plots using matplotlib.
- Data processing using REST API of The Materials Project.
- Full documentation using sphinx.

02/2022 — **Image captioning using reinforcement learning.**
TU Bergakademie Freiberg
Machine Learning | Deep Reinforcement Learning | Python

- A team project to generate captions for images using policy network - reward model.
- Implemented in Python using TensorFlow, Pandas, Jupyter and Matplotlib.

03/2021 — **Image processing using Message Passing Interface (MPI).**
TU Bergakademie Freiberg
High Performance Computing | Parallel Processing | C++

- Native implementation to perform a scalability study on university's high performance computing cluster.
- Build system using CMake.
- Documented using Doxygen.

Certifications

Deutsch — Goethe Zertifikat B1, German language certificate issued by Goethe Institute & Kommunikation in Beruf und Studium, TU Bergakademie Freiberg, 2022.