PERSONAL INFORMATION

Aditya Raj

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💬 Skype adityaraj52521

Gender Male | Date of birth 26 December 1993 | Nationality Indian

UNIVERSITY EDUCATION

2015 - Till now

M.Sc. in Internet Technologies and Information Systems

TU Clausthal, ClausthalZellerfeld, Germany

GPA: 1.28/5 (where 1 being best out of 5)

Core Subjects: Simulation, Machine Learning, Databases, Wireless Sensors and Network Security

05/2011 - 11/2015

B.Tech. in Information Technology

Vellore Institute of Technology, Vellore, India

GPA: 8.71/10 (where 10 being best out of 10)

WORK EXPERIENCE

1/2017 - 7/2017

Student Assistant

Under Prof. Dr. Wolfgang Pfau, Institut für Wirtschaftswissenschaft, TU Clausthal

Responsible for developing website www.icln.de from scratch which allows registered members from different universities to participate in a team based role play for TOPSIM business simulation game. Other features include user profile management, viewing member details, role based file uploads, adobe communication and video playlists

1/2017 - 4/2017

Student Assistant

Under Prof. Dr. Ronald Menges, Institut für Wirtschaftswissenschaft, TU Clausthal

Assisted in completing the research paper on world energy balances by analyzing IEA energy database and producing relevant charts and graphs for different energy sources based on production, region, sector, demand, and trade

10/2015 - 8/2016

Student Assistant

Under Prof. Dr. Jörg Müller, Director Department of Informatic, TU Clausthal

- Developed OpenStreetMap Query Filter tool based on JAVA MAVEN framework using suitable XSD and XSLT transformations
- Modelling of OpenStreetMap data using Blenders, Osm2World and Osm2Filter
  GIT: https://github.com/adityaraj52/EnvironmentSimulation.git

2013

Student Research Internship (for two months)

Under Prof. Dr. Jörg Müller, Director Department of Informatic, TU Clausthal

Worked on "ROBOTIC FIRE FIGHTERS" to create and test Simulation models on a Virtual Robotic Simulator (V-REP) using LUA programming language

ACADEMIC PROJECTS

7/2017 - Till now

M.Sc. - Thesis Title: 'Damage detection in steel bars using high dimensionality outliers detection'

Under Supervision of Prof. Dr. Michael Kolonko, Institute of Applied Stochastic and Operations Research, TU Clausthal in cooperation with Salzgitter Flachstahl GmbH

- Developed and implemented Voting Outliers Using Randomised Sampling (VOTERS) algorithm to analyze defect patterns in long steel bars
- Developed Gradle based JAVA framework to support automated extraction of outliers from XML files using JAXB, dimensionality reduction and VOTERS algorithm
- Created R shiny framework to visualise multiply linked defect data plots
- To establish significance of VOTERS among other existing multidimensional unsupervised outlier detection techniques
- Skills/Tools required: R, Java, Unsupervised machine learning

11/2016 – 4/2017

Research Project: CLAP: Cooperative Locality-aware Data Processing in Heterogeneous Wireless Sensor Networks

Under Supervision of Dr. Andreas Reinhardt, Prof. Dr. Hartmann, Department of Informatics, TU Clausthal

Simulating a network of Telosb motes and Raspberry Pi devices with the focus on increasing energy budget of the sensor network by pulling away the load of large amount of data processing locally and instead shifting the workload to aggregator processing centre with higher compute power and energy budget

Skills/Tools required: C, nesC, TinyOS, Cooja Simulator, Telosb Mote

11/2016 – 4/2017

Image Recognition using Deep Learning TensorFlow

Problem: https://www.kaggle.com/c/dogs-vs-cats

4/2016 – 8/2016

Implementation of BOIDS Simulation in SCILAB

Git: https://github.com/adityaraj52/Boids_Simulation.git

12/2014 - 05/2015

B.Sc. - Thesis Title: 'Agent-based simulation of autonomous cars'

Under Supervision of Prof. Dr. Jörg P. Müller, Director Department of Informatics, TU Clausthal

Agent-based simulation of cooperative driving maneuvers of autonomous cars in OpenDS and AgentDrive
Thesis GPA: 10/10 (10 being best out of 10)
GIT: https://github.com/adityaraj52/AgentDrive_BachelorsThesis.git

SKILLS AND PRESENTATIONS

Core Skills
- Programming: R, PYTHON, JAVA, C++
- WEB-Programming: HTML5, CSS, XSLT, XSD, Bootstrap, PHP
- Software Packages: Scilab, V-REP, Blenders, Latex, Cooja, OpenDS, TensorFlow, TinyOS
- Build environments: Git, CircleCI, Maven, Gradle

Languages
- English: *Mother Tongue*
- German: *Basic (until A2 level)*

Presentations
- Big Data Processing at Trillions Scale Using Apache Giraph
- POODLE Attack affecting Network Security
- Boids Simulation in Scilab