



Nitin Shukla
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Nitin Shukla

About me I am an enthusiastic and motivated researcher, willing to acquire new skills and expertise to expand my horizons. I am passionate about data science and High Performance Computing. I have proven experience in working independently and in teams. I am a quick learner and an ambitious result-driven hard worker.

Demonstrated Skills

Problem solving and strategic thinking

- Development and employment of mathematical modelling and computational techniques for investigating physics problems
- Analysis of complex data structures
- Use of my experience and knowledge to work around obstacles

Organizational skills

- Ability to plan and prioritise tasks with the aim of meeting deadlines
- Logistic abilities proven by the organisation of postgraduate courses about parallel programming

Team work and leadership skills

- Ability to carry out interdisciplinary projects involving several researchers with different expertise, as demonstrated by my publication record
- Ability to effectively guide teams, as proven by my mentoring roles in NVIDIA hackathon
- Ability to work in a multi-cultural environment, as evidenced by the fact that my work activities have been conducted in five different countries

Communication and presentation skills

- Highly trained in delivering presentations, as demonstrated by my participation to international conferences
- Ability to explain difficult concepts to non-specialists, as also shown by the layman articles that I write on medium.com
- Ability to teach courses on parallel programming for researchers

Writing skills

- Concise and clear writing style as shown by my 29 scientific publications in peer-reviewed international journals
- Trained in proposal and grant writing with proven track record of success in attracting monetary and computational fundings for my research

IT Skills

- Deep knowledge of UNIX/LINUX systems and shell scripting
- Routine employment of Python, IDL, Matlab and Mathematica
- Very competent on JuliaLang, Fortran, C and C++ programming languages
- Able to develop parallel codes using MPI, OpenMP, OpenACC and CUDA
- Experience in the use of version control softwares as git and svn
- Excellent knowledge of the Office suite and its equivalent for Mac and LINUX
- Routine employment of \LaTeX
- Proficient in HTML and CSS
- Basic knowledge of SQL
- Basic usage of Adobe Illustrator

Education

I have two independent PhD degrees.

2013-2019, PhD II in computational plasma physics at Instituto Superior Técnico (Lisbon, Portugal)

My studies were based on massively parallel numerical simulations. I gained experience in deploying numerical codes and supporting libraries on a variety of platforms. I wrote scripts in Python, IDL and Matlab to analyse the data obtained from my simulations.

Passed with Distinction.

2010-2012, PhD I in theoretical plasma physics at Umeå Universitet (Umeå, Sweden)

I developed theoretical models to describe non-linear plasma dynamics. I wrote scripts in Mathematica to solve complex equations.

2008-2010, Master Degree in Physics Engineering at Instituto Superior Técnico (Lisbon, Portugal)

Passed First class.

Experience

2020-today, High Performance Computing analyst at CINECA (Casalecchio di Reno, Italy)

User support for the Eurofusion project, PI of the project try21 to port the code ECsim to GPU using OpenACC, co-developer of the CUDA version of the XShell code (H2020 ChEESE project), technical referee for PRACE and ISCRA projects, organiser and convener of courses on JuliaLang, C++ and OpenMP, host of HPC-Europa3 projects.

2019-2020, Postdoctoral researcher at Instituto Superior Técnico (Lisbon, Portugal)

Massively parallel numerical simulations based on the Particle-In-Cell technique.

2016, Websummit (Lisbon, Portugal)

Representative of IB hubs.

2006-2007, Visiting researcher at Ruhr-Universität (Bochum, Germany)

Development of mathematical models to describe waves and instabilities in plasmas.

Prizes and awards

- Best scientific visualisation ARCHER2 HPC Image and Video Competition, £250 (2020)
- HPC-Europa3 project (2019), 500,000 CPUhours on ARCHER + £2,000 to visit Lancaster University (Lancaster, UK)
- HPC-Europa3 project (2018), 1,250,000 CPUhours on Marconi + €1,500 to visit CINECA (Casalecchio di Reno, Italy)
- Best scientific visualisation GoLP Image and Video Competition, €500 (2015)

Languages

- Hindi (mother tongue)
- English (C1)
- Portuguese (A2)
- Italian (A2)

Publications

For the full list of publications, please refer to my Google Scholar profile:
https://scholar.google.com/citations?user=Fs_mg34AAAAJ&hl=pt-PT.