

Mustafa Bhotvawala

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D.O.B: 08/08/1994

Ausbildung	RWTH Aachen University MSc. in Computational Science (CAME) majoring in Computational Fluid Dynamics and High Performance Computing	2017-2020
	deeplearning.ai Deep Learning Specialization Neural Networks, Machine Learning, Hyperparameter Tuning, CNNs	2020 -
	College of Engineering Pune B.Tech in Mechanical Engineering (GPA: 8.62/10; Rank: 17/181) Tests: GRE: 333/340; TOEFL: 119/120	2012-2016
	Carmel School Kuwait CBSE Science (95.56%; 99% in Physics and Computer Science, School Topper)	2012
Experience	Volkswagen AG., Wolfsburg, Germany <i>R&D Intern in CFD</i> <ul style="list-style-type: none">• Development of OpenFOAM workflow for VW (C++)• Simulation of engine intake mixing with rain-spray	Apr 2019- Jun 2020
	Ford Motor Company, Chennai, India <i>Product Development Engineer: Programs Smart Mobility</i> <ul style="list-style-type: none">• Managed Ford Ecosport (2017) cost-reduction• Redesigned cooling module (CRFM) using CFD• Supported Ford Smart Mobility initiatives for two Indian megacities (Python)	Jul 2016- Aug 2017
Student Positions	Sonnenwagen Aachen e.V., Aachen, Germany <i>Aerodynamics Engineer</i> <ul style="list-style-type: none">• Design and CFD simulation of solar-car (OpenFOAM, C++)• Validation and parameter studies, adjoint optimization	Sep 2018- Sep 2019
	Institute for Aerodynamics, RWTH Aachen, Germany <i>Student Assistant: CFD (LBM) of the Human Nasal Cavity</i> <ul style="list-style-type: none">• Developed Lattice-Boltzmann Solver for nasal cavity simulation (C++)• Implemented Galilean Invariant methods for high Reynolds numbers	Jun 2018- March 2019
	Institute for Automotive Engineering, RWTH Aachen, Germany <i>Student Assistant: Vehicle Concepts</i> <ul style="list-style-type: none">• Conducted Microsimulation of autonomous shuttles (Python)• Assisted with interior concept design of the Ford Autonomous Shuttle	Nov 2017- March 2019
	Department of Aerospace Engineering, IIT Madras, India Research Scholar: CFD <i>A Stochastic Optimization Routine for Airfoils via CST Parameterization</i> <ul style="list-style-type: none">• Developed optimization routine for airfoils with XFOIL, Genetic Algorithms (MATLAB)• Implemented novel CST parameterization technique	Jun-Aug 2015
	Purdue School of Engineering and Tech, IUPUI- Indianapolis, USA Research Scholar: CFD <i>Testing of Optical Diagnostic System for Constant Volume Wave Rotor Combustor</i>	Jun-Aug 2014

- Conducted research towards development of CV combustor for gas turbines
- Experimented on jet ignition and ames, using HSS and Schlieren imaging

Faculty of Mechanical Engineering, College of Engineering Pune

<i>Thesis: Numerical simulation of flow through groups of square cylinders with LBM</i>	2016
• Lattice Boltzmann code implemented from scratch (Fortran)	
• The bundle of cylinders was populated in five different cases, the variation of global and individual force coefficients was studied and scatter plots were generated	

Awards	Best-in-Class Award, RWTH SoSe 2018	2018
	Sponsored student at the Aachen Colloquium for Automotive Engineering 2018	2018
	Among 20 selected students from elite European universities (ETH-Z, TU Delft, etc.) at the Idea League Summer School on Future Mobility	2018
	Ford Recognition Award for Megaprojects	2017
	2nd place in Undergraduate Student Research Competition Awards (sponsored by Siemens- IEOM Detroit Conference, USA)	2016
	Seminar on Stochastic Optimization at IIT-Madras	2015
	TA at Minority Engineering Program (MEAP), Indianapolis	2014
	Student Travel Grant for 50th AIAA JPC, Cleveland	2014
	Best Paper at Mindspark 2014, COEP	2014
	Awarded COEP CIWGC Scholarship (\$5000/year)	2012
	Mughal Mahal Gold Medal (Highest % in 12th)	2012
	YMCA Award (National Topper in Physics)	2012
	INSPIRE Scholarship (award for the top 1% of all students)	2012
Programming	Advanced: C++, Python, L ^A T _E X, Intermediate: OpenMP and MPI (HPC), Linux/Bash scripting, Matlab	
Engineering	Advanced: OpenFOAM, ANSA, Catia V5 Intermediate: Paraview, EnSight, Star-CCM+	
Languages	Deutsch: Fluent (C1.1) English, Hindi, Gujarati: Multilingual	
Certifications	Computational Thinking and Data Science, Massachusetts Institute of Technology	2020
	Introduction to Data Analytics, IIT Madras	2016
	Foundation of Computational Fluid Dynamics, IIT Madras	2015
	Membership of American Institute of Aeronautics and Astronautics (AIAA)	2014
Publications	M. Patil, M. Abbas , A. Patil, C.M. Sewatkar, <i>Force Scatter Analysis of Flow Through a Bundle of Square Cylinders Using LBM</i> , 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP-2016), December 15-17	2016
	M. Patil, M. Abbas , A. Patil, C.M. Sewatkar, <i>Force Scatter for Flow through a 4 × 4 Array of Square Cylinders</i> , 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP-2016), December 15-17	2016
Miscellaneous	Translator , RWTH International Summer Schools	2018
	Leader , Ford-Agastya Low Cost Science Model Workshops	2016
	Volunteer , Pune Learns (Teaching basic English to underprivileged children)	2016
	Chairman , Pune Model UN	2016, 2017
	Head , College of Engineering Pune Debate Team	2015
	Quizmaster , Brainstorm, Torquest	2013, 2014
	Gold Medal , UNSC, Pune Model UN '14	2014
	Guinness World Record , 'Most People Solving Rubik's Cubes'	2012
	School Cabinet and Head of the House Rubies	2011