

# SAJID MOHAMED



## Personal

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## Personal Skills

- Perceptive Communicator & Good Presenter
- Resilient to setbacks
- Time Management and Deadline-Oriented
- High-level Problem-Solving
- Analytical and Critical Thinking
- Inquisitive and Adept
- Proactive Team Player, Adaptable and Flexible

## Technical Skills

MATLAB Simulink, Stateflow	● ● ● ● ●
SDF3	● ● ● ● ●
Inchroon Tool Suite	● ● ● ● ●
CoppeliaSim, Webots	● ● ● ● ●
UPPAAL (SMC, Cora)	● ● ● ● ●
NVIDIA AGX Xavier	● ● ● ● ●
OpenCV	● ● ● ● ●
PyTorch, TensorFlow	● ● ● ● ●
SysML	● ● ● ● ●
Git Version Control	● ● ● ● ●
Linux, Shell Scripting	● ● ● ● ●
MS Office Tools	● ● ● ● ●

## Programming Skills

C++11	● ● ● ● ●
C	● ● ● ● ●
MATLAB	● ● ● ● ●
Python	● ● ● ● ●
CUDA	● ● ● ● ●
Java	● ● ● ● ●

- A meticulous researcher with 7 years of academic experience. Open to exciting industrial challenges that require research acumen in digital twins, image-based control, vision-based AI, model-driven design & optimisation, and/or systems engineering.
- Efficiently managed and proactively initiated collaborations with other researchers to successfully complete several sponsored joint industry/academic consortium projects.
- A passionate educator & an active mentor for over a dozen students.
- Excellent communication, presenting and management abilities with strong analytical, modelling and scientific programming skills.

## Work experience

### University Researcher

Jun 2020 - Present

#### Eindhoven University of Technology

- Part of the ECSEL JU project FitOptiVis (From the cloud to the edge - smart IntegraTion and OPTimisation Technologies for highly efficient Image and VIdeo processing Systems).
- Developed **IMACS**: a configurable SiL, PiL or HiL performance evaluation framework for closed-loop IBC systems (Platforms - CompSOC, Server PC, NVIDIA - AGX Xavier & Drive PX2).
- Active mentor for **9** Master's theses (3 ongoing) and **4** Bachelor's project. Mentored industrial theses at **Sioux Logena**, **Siemens** and **NXP**.

### Early-Stage Researcher

Jun 2016 - May 2020

#### Eindhoven University of Technology

- Instrumental in the success of the H2020 EU ITN project oCPS (Platform-aware Model-driven Optimisation of Cyber-Physical Systems) - an academic/industry consortium with 15 ESRs.
- Delivered 3 toolchains & 4 collaborative publications with other ESRs in the consortium.
- A passionate educator with excellent course evaluations from the students:
  1. Embedded control systems - Model-based & platform-aware co-design considering multiprocessors, automotive ECUs, CAN and FlexRay buses;
  2. Systems engineering - CACC, LKAS & Automated Parking design using V-model & SysML;
  3. Computation I - Software development & programming using C++ & Pynq board;

### Research Assistant

Jun 2014 - Apr 2016

#### Indian Institute of Technology Kharagpur

- Part of IGSTC funded AUTOSAFE - Architecture-aware Timing Analysis & Optimization of Safety-Critical Automotive Software - project. Focus on Formal Methods & Timing Analysis.
- Part of MHRD funded Intelligent Tools for Smart Electric Grids project.
- Teaching assistant for Embedded Software Design & Validation Theory and Lab courses - Focus on temporal logic, timed & hybrid automata with lab exercises using UPPAAL, SPIN, MATLAB Simulink & Stateflow, NuSMV, SpaceX, CBMC.

## Education and Qualifications

### Doctor of Philosophy (PhD)

Jun 2016 - Present

#### Eindhoven University of Technology

- Thesis on "Multiprocessor Image-Based Control (IBC) Systems: Model-Driven Optimisation" (expected submission: March 2021).
- Scenario-aware dataflow modelling, Max-plus analysis, LQR control design, Vision-based AI, Pareto optimisation, Platform-based design.

### Master of Technology in Embedded Controls and Software

Jul 2012 - Apr 2014

#### Indian Institute of Technology Kharagpur

- Focus on Formal Verification, Timing Analysis & Cyber-Physical Systems.
- Thesis on "Timed Abstractions and Analysis of Distributed Real-Time Control Architectures".

### Bachelor of Technology in Electrical & Electronics Engg

Jul 2008 - May 2012

#### National Institute of Technology Calicut

- Projects focused on Embedded Systems, Autonomous self-navigating robots, Vision-based guidance & tracking, RFID-based debit system.

## Secondments & Internships

### Secondment at Philips Healthcare, Best (NL)

Apr 2019 - May 2019

Modelling & simulation of video streams transmission over ethernet.

### Secondment at Inchron GmbH, Potsdam (DE)

Jul 2017 - Aug 2017

Integration of SDF3 with Inchron & timing analysis for industrial applications.

### Visiting Researcher, Technical University Munich (DE)

Sep 2013 - Mar 2014

Hosted by the Institute of Real-Time Computer Systems.

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## Honours & Awards

1. **Marie Skłodowska-Curie ITN Scholarship** (worth ~**230,000 €**) to pursue PhD, 2016-2019.
  2. **Best Paper Award** ECYPS 2019.
  3. **Best Poster Award Nomination** ICT.OPEN2019, Netherlands.
  4. **Best Chapter Award** 2019 for MCAA Benelux Chapter during my tenure as Secretary.
  5. **Excellent Course Evaluation** 2018/19 for 5LIJ0 Embedded Control Systems course at TU/e.
  6. **MHRD Scholarship** (worth ~**600,000 ₹**) to pursue Research at IIT Kharagpur, 2014-2016.
  7. **DAAD IIT Masters' Sandwich Program** 2013/14 (worth ~**7,000 €**): joint Masters' thesis at Technical University Munich, Germany.
  8. **MHRD Scholarship** (worth ~**200,000 ₹**) to pursue M Tech at IIT Kharagpur, 2012-2014.
  9. **AKS Scholar** 2008 ISTE, NITC students chapter for Abdul Kalam Scholarship Challenge.
  10. **Rashtrapathi Scout Award** from the then President of India, Dr. A. P. J. Abdul Kalam, 2006.
  11. **Rajya Puraskar Scout Award** from the honourable Governor of Kerala, 2005.
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## Volunteering Experience

- Vice-Chair, BeNeLux chapter of Marie Curie Alumni Association (MCAA), 2020 – present.
  - Secretary, BeNeLux chapter of Marie Curie Alumni Association (MCAA), 2018 – 2020.
  - Communication and Events, Career Development Working Group, MCAA, 2018.
  - IEEE Region 8 (Europe, Middle East and Africa) Management Activities Lead (Student branches), IEEE TEMS Young Professionals team 2018.
  - Elected as Academic Affairs Secretary, NIT Calicut Student Affairs Council, 2011 - 2012.
  - Elected as Placement Co-ordinator, Electrical & Electronics Engineering, 2011 - 2012.
  - Member, National Service Scheme, 2008 – 2012.
  - Rashtrapati (President) Scout, Bharat Scouts & Guides, 2003 – 2007.
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## Publications

- Journals - **3**, Conferences - **10** (Articles - 7, Abstracts - 2, Tutorial - 1), Others - 1;
  - Citations - **32**, h-index - **4**, i10-index - **1**.
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## Language Proficiency

Malayalam (mother tongue), English (C2), Tamil (B2), Hindi (B2)

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## Interests

Football, Travelling, Fantasy Novels, Board Games, Hiking.

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## References

References available on request.