

ROHAN CHABUKSWAR

Collins Aerospace Applied Research & Technology, Penrose Wharf Business Centre, Cork, Ireland

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PROFESSIONAL EXPERIENCE

Collins Aerospace Applied Research & Technology

Chief Technologist *June 2022 – Present*

Principal Research Scientist *April 2021 – June 2022*

Staff Research Scientist *March 2018 – April 2021*

Senior Research Scientist *July 2014 – March 2018*

Pacific Gas and Electric, San Francisco

Information Security Intelligence Intern *May – August 2011*

Acoustic Research Laboratory, NUS

Research Engineering Intern *May – July 2007*

EDUCATION

CARNEGIE MELLON UNIVERSITY

Doctor of Philosophy, Electrical and Computer Engineering, May 2014

CARNEGIE MELLON UNIVERSITY

Master of Science, Electrical and Computer Engineering, May 2009

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

Bachelor of Technology, Engineering Physics, August 2008

LANGUAGES

English, German, French, Hindi, Marathi

TECHNICAL SKILLS

- **Programming Languages:** Java, Python, C++, Visual Studio, PHP, JS, CSS
- **Operating Systems:** Linux, Windows, Mac OS, Solaris, Unix
- **Software:** MATLAB & Simulink, Mathematica, Eclipse

PATENTS

Building Health Assessment And Commissioning Tool With Dynamic Report Generation, *US-11561536-B2*, R Chabukswar, K Mukherjee, A Ghosh, Granted 2023

Automated Monitoring System For A Forced Air Handling System And Method Of Operation, *US-11499731-B2*, K Mukherjee, R Chabukswar, A Ghosh, Granted 2022

Ice Detector System and Method, *US-20230058286-A1*, R Chabukswar, E Ridouane, et al, 2021

Ice Detection Arrangement, *US-20210229818-A1*, K Debbadi, E Ridouane, R Chabukswar, et al, 2020

A Service System Of An Air Conditioning System, *US-20210148593-A1*, K Mukherjee, R Chabukswar, 2019

SELECTED PUBLICATIONS

Differentiation between Appendix O and Appendix C Icing Conditions in Flight Using the Collins Ice Differentiator System, M Hamman, G Gelao, EH Ridouane, R Chabukswar, et al, SAE Technical Paper, Mar. 2024

Field Demonstration of an Automated Building Commissioning Tool, H Reeve, A Ghosh, B Jing, R Chabukswar, Y Li, Z Zhu, ASHRAE Winter Conference, Jan. 2019

Longest Straight Line Paths on Water or Land on the Earth, R Chabukswar, K Mukherjee, arXiv:1804.07389 [math.HO]

A Framework for Attack-Resilient Industrial Control Systems: Attack Detection and Controller Reconfiguration, K Paridari, N O'Mahony, A E Mady, R Chabukswar, M Boubekeur, H Sandberg, Proc. IEEE, vol. 106, pp. 113 – 128, Jan. 2018

Implementation Experiences from Smart Grid Security, R Chabukswar, S Basagiannis, Y Yang, K McLaughlin, M Boubekeur, Book Chapter, Smart Grid Security

Secure Detection Using Correlated Binary Sensors, R Chabukswar, B Sinopoli, ACC 2015, Chicago, United States

Secure Detection in Cyberphysical Control Systems, PhD Thesis

Detecting Integrity Attacks on SCADA Systems, Y Mo, R Chabukswar, B Sinopoli, IEEE Transactions on Control Systems Technology, vol. 22, no. 4, pp. 1396 – 1407, July 2014

Secure Detection Using Binary Sensors, R Chabukswar, Y Mo, B Sinopoli, IFAC NecSys 2013, Koblenz, Germany

Detecting Integrity Attacks on SCADA Systems, R Chabukswar, Y Mo, B Sinopoli, IFAC World Congress 2011, Milan, Italy

Simulation of Network Attacks on SCADA Systems, R Chabukswar, B Sinopoli, G Karsai, A Giani, H Neema, A Davis, First Workshop on Secure Control Systems, CPSWeek 2010, Stockholm, Sweden

AWARDS

International Trade Compliance Rising Star Award, May 2019 *Demonstrating growth and impact to International Trade Compliance community*, United Technologies Corporation

Outstanding Achievement Award, March 2017 *Automated Building HVAC Commissioning and Controls Tuning*, United Technologies Research Center

Extra Effort Award, October 2016 *Exceptional Support to Automated Commissioning Tool Development*, United Technologies Research Center

Dean's Tuition Fellowship, 2009, Carnegie Institute of Technology

Gold Medal, 8th International Astronomy Olympiad, Stockholm, 2003

CERTIFICATIONS

QQI Level 5 Occupational First Aid, *Quality & Qualifications Ireland*

Enriched Air Diver, *Professional Association of Diving Instructors*

Advanced Open Water Diver, *Professional Association of Diving Instructors*

Idaho National Laboratory SCADA Security

LEADERSHIP

- Ambassador for Cork Community, InterNations.
- System Administrator for Undergraduate Computer Laboratory, Physics Department, IIT Bombay — *Revamped the entire computing facility, centralized accounts to institute central accounts, supervised the development of front- and back-end of the department website.*
- Involved in training Indian Teams to International Astronomy Olympiad and International Olympiad in Astronomy and Astrophysics.
- Core Group Member, webmaster and account manager of Technical General Championship, IIT Bombay — *automatized all institute quizzes and online registration processes for all events.*

RELEVANT COURSES

Networked Cyber-Physical Systems, Linear Systems, Pattern Recognition & Machine Learning, Estimation, Detection & Identification, Adaptive & Advanced Digital Signal & Image Processing, Stochastic Processes, Wavelets, Cryptography, Security & Privacy, Electrical Power Systems, Bio-Imaging, Informatics & Analysis, Analytical Techniques, Linguistics & Natural Language Processing, Microprocessors, Digital & Analog Circuits, Quantum Mechanics & Electronics, Atomic, Molecular & Nuclear Physics, Astrophysics, Special & General Relativity, Statistical Physics, Classical Mechanics, Electromagnetism, Photonics, Condensed Matter Physics, Complex Analysis, Molecular Cell Biology, Thermodynamics, Optics, Engineering Drawing