# ROHAN CHABUKSWAR

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

https://chabukswar.ie/ • inlinkedin.com/in/rohanchabukswar

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

**全** 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



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

PATENTS

**Ice Detection Arrangement**, *JP2021116060*, K Debbadi, E Ridouane, R Chabukswar, et al, Granted 2025

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

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

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

SELECTED
PUBLICATIONS

On the Training of Algorithms Using Finite-Element Computation Data for Damage Identification in Sensorised Composite Structures, R Chabukswar, C Mullen, K Kouramas, ECCOMAS 2024, Lisbon, Portugal

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, 8<sup>th</sup> 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, supervized 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