

Chathuranga Weeraddana

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🌐 chathugithub1.github.io/Home/

1. PERSONAL DETAILS AND THE DATE OF THE CV

Surname	Weeraddana
First Names	Pradeep Chathuranga
Date of the CV	2023/12/09

2. DEGREES

University of Oulu <i>Doctor of Science, Telecommunication Engineering</i> Contact (Address): University of Oulu, P.O. BOX 8000, FI-90014, University of Oulu, Finland Contact (Tel.): +358 294 480 000 Contact (Fax): +358 8 344 064 Contact (e-mail): university.of.oulu@oulu.fi	Finland 2011
Asian Institute of Technology <i>Master of Engineering, Telecommunication Engineering</i>	Thailand 2007
University of Moratuwa <i>Bachelor of Science, Electronic and Telecommunication Engineering</i>	Sri Lanka 2004

3. OTHER EDUCATION AND EXPERTISE

The Open University of Sri Lanka <i>Induction Training for Senior Lecturers</i>	Sri Lanka 2019
DeepLearning.AI <i>Cert. in Neural Networks and Deep Learning</i> (Offered through Coursera)	USA 2021
DeepLearning.AI <i>Cert. in Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization</i> (Offered through Coursera)	USA 2021
DeepLearning.AI <i>Cert. in Structuring Machine Learning Projects</i> (Offered through Coursera)	USA 2021
Cisco Systems <i>Cisco Certified Network Associate</i>	USA 2005

4. LANGUAGE SKILLS

Native language	Sinhala
Other Language Skills	English, Fluent

5. CURRENT EMPLOYMENT

CWC-RT, University of Oulu <i>Docent</i> Working in the subgroup Intelligent Connectivity and Networks/Systems Group (ICON)	Finland 2024/09 - To Date
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6. PREVIOUS WORK EXPERIENCE

CWC-RT, University of Oulu <i>Research Scientist, University Researcher</i> Worked in the subgroup ICON	Finland 2022/08 - 2024/09
Dept. of Electronic & Telecommun. Engineering, University of Moratuwa <i>Senior Lecturer, Grade I</i> Stage of the academic research career: Third Tier	Sri Lanka 2018 - 2022/07
KTH Royal Institute of Technology <i>Guest Researchers</i> Program: Digital Futures 'Scholar-in-Residence' programme Source: SFO IT and mobile communication Working Mode: 3 months Full-Time	Sweden 2021/03/01 - 2021/06/01
Dept. of Electrical & Electronics Engineering, University of Peradeniya <i>Visiting Lecturer</i> Working Mode: Part-Time	Sri Lanka 2018-2022
Dept. of Electronic Engineering, Yangon Technical University <i>Instructor, Postgraduate</i> Project: Telecom for YTU Project Program: Part of the postgraduate diploma in Telecommunications Offered by: University of Oulu, Finland Working Mode: \approx 10 days Full-Time	Myanmar 2019/08/19 - 2019/09/01
Dept. of Electronic Engineering, Yangon Technical University <i>Visiting Lecturer, Postgraduate</i> Project: Telecom for YTU Project Program: Part of the postgraduate diploma in Telecommunications Offered by: University of Oulu, Finland Working Mode: \approx 10 days Full-Time	Myanmar 2018/09/10 - 2018/09/20
Dept. of Electrical & Computer Engineering, SLIIT <i>Senior Lecturer, Higher Grade</i>	Sri Lanka 2015 - 2018
Dept. of Automatic Control, KTH Royal Institute of Technology <i>ACCESS Postdoc Researcher</i>	Sweden 2012-2014

7. CAREER BREAKS

NA

8. RESEARCH FUNDING AND GRANTS

KTH Royal Institute of Technology <i>Guest Researchers</i> Program: Digital Futures 'Scholar-in-Residence' programme Source: SFO IT and mobile communication Amount: 90000 SEK + living expenses	Sweden 2021/03/01 - 2021/05/31
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I have not applied for any funding or grant for my research except the one listed above. More specifically, during my postdoctoral career at KTH Royal Institute of Technology, Sweden, the main responsibilities were to perform my own research and to advise graduate students. At SLIIT and the University of Moratuwa, Sri Lanka, the main responsibilities include teaching undergraduate students. Graduate students are almost always self-funded and their working mode is part-time. As a result, the system setting itself did not entail me to apply for any funding or grant for research. Nevertheless, I am confident that I am capable of writing proposals for research funding and grants if needed.

9. RESEARCH OUTPUT

Total number of publications

47

- A1 Journal article – refereed: 18
- C1 Scientific book: 1
- D3 Professional conference proceedings: 27
- G2 Master's thesis, polytechnic Master's thesis: 1
- G4 Doctoral dissertation (monograph): 1

Ten most cited publications

2023/12/09

- S. Magnússon, **P. C. Weeraddana**, and C. Fischione, "A distributed approach for the optimal power flow problem based on admm and sequential convex approximations," *IEEE Transactions on Control of Network Systems*, vol. 2, no. 3, pp. 238–253, Oct. 2015.
- G. Athanasiou, **P. C. Weeraddana**, C. Fischione, and L. Tassiulas, "Optimizing client association for load balancing and fairness in millimeter-wave wireless networks," *IEEE/ACM Trans. Network.*, vol. 23, no. 3, pp. 836–850, Mar. 2014.
- S. Magnússon, **P. C. Weeraddana**, M. Rabbat, and C. Fischione, "On the convergence of alternating direction lagrangian methods for nonconvex structured optimization problems," *IEEE Transactions on Control of Network Systems*, vol. 3, no. 3, pp. 296–309, Oct. 2016.
- **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Resource allocation for cross-layer utility maximization in wireless networks," *IEEE Transactions on Vehicular Technology*, vol. 60, no. 6, pp. 2790–2809, July 2011.
- S. Joshi, **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "Weighted sum-rate maximization for MISO downlink cellular networks via branch and bound," *IEEE Trans. Signal Processing*, vol. 60, no. 4, pp. 2090–2095, Apr. 2012.
- **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, A. Ephremides, and Carlo Fischione, "Weighted sum-rate maximization in wireless networks: A review," *Foundations and Trends in Networking, Now Publishers Inc.*, vol. 6, no. 1-2, pp. 1–163, 2012.
- **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Weighted sum-rate maximization for a set of interfering links via branch and bound," *IEEE Trans. Signal Processing*, vol. 59, no. 8, pp. 3977–3996, Aug. 2011.
- **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Multicell downlink weighted sum-rate maximization: A distributed approach," *IEEE Trans. Signal Processing*, vol. 61, no. 3, pp. 556–570, February 2013.
- G. Athanasiou, **P. C. Weeraddana**, and C. Fischione, "Auction-based resource allocation in millimeterwave wireless access networks," *Communications Letters, IEEE*, vol. 17, no. 11, pp. 2108–2111, Nov. 2013.
- **P. C. Weeraddana**, R. M. A. P. Rajatheva, and H. Minn, "Probability of error analysis of BPSK OFDM systems with random residual frequency offset," *IEEE Transactions on Communications*, vol. 57, no. 1, pp. 106–116, Jan. 2009.

10. RESEARCH SUPERVISION AND LEADERSHIP EXPERIENCES

Research Supervision.....

- **Hansi Abeynanda**: I am acting as one of the main supervisor of the student.
 - Thesis: Title yet to be determined

- Level: PhD
- Place/Year: KTH Royal Institute of Technology, Sweden, Ongoing
- **Hansi Abeynanda:** I was acting as the supervisor of the student.
 - Thesis: Distributed Consensus with Dual Decomposition Methods Under Additive and Bounded Errors
 - Level: Master of Philosophy
 - Place/Year: University of Sri Jayewardenepura, Sri Lanka, 2022
 - Link: https://chathugithub1.github.io/Home/files/MPhil_Hansi.pdf
- **Nishal De Silva:** I was acting as the supervisor of the student.
 - Thesis: On Musical Onset Detection via the S-Transform
 - Level: Masters
 - Place/Year: SLIIT, Sri Lanka, 2017
 - Link: https://chathugithub1.github.io/Home/files/MSc_Nishal.pdf
- **Nipuna Weeratunge:** I was acting as the supervisor of the student.
 - Thesis: Controlling Non-Playable Characters (NPC) in Video Games Using Local Knowledge
 - Level: Masters
 - Place/Year: SLIIT, Sri Lanka, 2016
 - Link: https://chathugithub1.github.io/Home/files/MSc_Nipuna.pdf
- **Shehan Dharmadasa:** I was acting as the supervisor of the student.
 - Thesis: Application of Attractor Reconstruction to Epileptic Seizure Onset Detection
 - Level: Masters
 - Place/Year: SLIIT, Sri Lanka, 2016
 - Link: https://chathugithub1.github.io/Home/files/MSc_Shehan.pdf
- **Sindri Magnússon:** I was acting as a postdoctoral advisor of the student during the first year of his studies. My name is not officially documented. However, one may check the Acknowledgments section of the licentiate thesis or contact Prof. Carlo Fischione (carlofi@kth.se) for verification.
 - Thesis: A Distributed Approach to the Optimal Power Flow Problem and Its Privacy Properties
 - Level: PhD (First year)
 - Place/Year: KTH Royal Institute of Technology, Sweden, 2016
 - Link: <http://kth.diva-portal.org/smash/get/diva2:898752/FULLTEXT02.pdf>
- **Sindri Magnússon:** I was acting as the postdoctoral advisor of the student. My name is not officially documented. However, one may contact Prof. Carlo Fischione (carlofi@kth.se) for verification.
 - Thesis: A Distributed Approach to the Optimal Power Flow Problem and Its Privacy Properties
 - Level: Masters
 - Place/Year: KTH Royal Institute of Technology, Sweden, 2013
 - Link: <http://kth.diva-portal.org/smash/get/diva2:644629/FULLTEXT01.pdf>
- **Elisabetta Alfonsetti:** I was acting as the postdoctoral advisor of the student. My name is not officially documented. However, one may contact Prof. Carlo Fischione (carlofi@kth.se) for verification.
 - Thesis: Privacy Preserving Car-Parking: A Distributed Approach
 - Level: Masters
 - Place/Year: KTH Royal Institute of Technology, Sweden, 2012

- Link: <http://www.diva-portal.org/smash/get/diva2:602597/FULLTEXT02.pdf>

- **Umberto Mosca:** I was acting as the postdoctoral advisor of the student. My name is not officially documented. However, one may contact Prof. Carlo Fischione (carlofi@kth.se) for verification.

- Thesis: A Novel Distributed Approach for Optimal Power Flow Problem in Smart Grids

- Level: Masters

- Place/Year: KTH Royal Institute of Technology, Sweden, 2012

- Link: <http://www.diva-portal.org/smash/get/diva2:602608/FULLTEXT02>

Leadership Experience.....

- DESIRE6G, 2023-2025 (<https://desire6g.eu/>)

- Project Manager, University of Oulu

- IEEE MERCon 2022 (<https://ieeexplore.ieee.org/xpl/conhome/9906100/proceeding>)

- International Relations Chair: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9906197>

- IEEE MERCon 2020 (<https://ieeexplore.ieee.org/xpl/conhome/9179991/proceeding>)

- Publication Chair: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9185314>

11. TEACHING MERITS

Pedagogical training.....

Completed the mandatory Induction Training course at the Staff Development Centre, the Open University of Sri Lanka in 2019. Key expertise obtained during the course includes the traditional didactic pedagogic model, outcomes-based education (OBE), scaffolding, constructive alignment, constructivism, curriculum mapping and design, program design, and assessments, among others.

Other Pedagogical Expertise.....

Faculty of Engineering, University of Moratuwa

Quality Assurance Committee

Did bear the responsibilities as a member

Sri Lanka

2021

Faculty of Engineering, SLIIT

Accreditation Committee

Did bear the responsibilities as a member

Sri Lanka

2016

Faculty of Engineering, SLIIT

Curriculum Development Committee

Did bear the responsibilities as a member

Sri Lanka

2016

Teaching Experience.....

Div. of Network and Systems Engineering, KTH Royal Institute of Technology

Lecturer, Graduate Course

MM Optimization Algorithms with Machine Learning Applications

<https://chathugithub1.github.io/Home/courses/courseinfo.html>

Sweden

2022/03-2022/06

Faculty of Engineering, University of Moratuwa

Lecturer, Graduate Courses

Engineering Decision Theory, Broadband Communications, Digital Communications, Advanced Instrumentation

Sri Lanka

2018-2022

Faculty of Engineering, University of Moratuwa

Lecturer, Undergraduate Courses

Introduction to Telecommunication, Teletraffic Engineering

Sri Lanka

2018-2022

Dept. of Electrical & Electronics Engineering, University of Peradeniya <i>Lecturer, Graduate Course</i> Optimization in Communication Systems	Sri Lanka 2018- 2022
Dept. of Electronic Engineering, Yangon Technical University <i>Lecturer, Graduate Course</i> Introduction to Mathematical Optimization	Myanmar 2018 - 2019
Dept. of Electrical & Computer Engineering, SLIIT <i>Lecturer, Graduate Courses</i> Several Communication and Signal Processing Courses	Sri Lanka 2015 - 2018
Dept. of Electrical & Computer Engineering, Curtin University <i>Lecturer, Undergraduate Courses through SLIIT</i> Several Communication and Signal Processing Courses	Australia 2015 - 2018
Dept. of Automatic Control, KTH Royal Institute of Technology <i>Instructor, Graduate Courses</i> Network Optimization, Principles of Wireless Sensor Networks	Sweden 2013-2014
Centre for Wireless Communications, University of Oulu <i>Instructor, Graduate Courses</i> Convex Optimization with Applications in Wireless Communications and Networks	Finland 2010

Developing New Teaching Material (Graduate Level).....

Did bear the responsibilities of developing courses

- MM Optimization Algorithms with Machine Learning Applications (sole responsibility, Digital Futures ‘Scholar-in-Residence’ program, KTH Royal Institute of Technology, Sweden, 2022)
- Optimization in Communication Systems (sole responsibility, Dept. of Electrical & Electronics Engineering, University of Peradeniya, Sri Lanka, 2018)
- Introduction to Mathematical Optimization (sole responsibility, Dept. of Electronic Engineering, Yangon Technical University, Myanmar, 2018)
- Network Optimization (partial responsibility, Dept. of Automatic Control, KTH Royal Institute of Technology, Sweden, 2013)

Developing New Teaching Material (Undergraduate Level).....

Did bear the responsibilities of developing courses

- Introduction to Engineering Optimization (sole responsibility, Faculty of Eng., University of Moratuwa, Sri Lanka, 2020)
- Convex Engineering Design (sole responsibility, Faculty of Eng., University of Moratuwa, Sri Lanka, 2020)
- Network Traffic Engineering (partial responsibility, Faculty of Eng., University of Moratuwa, Sri Lanka, 2020)

Teaching interests.....

Including, but not limited to: Mathematical optimization and applications, Statistical signal processing, Machine learning, Digital signal processing, Wireless communication

12. AWARDS AND HONOURS

- Sri Lankan President’s **Award for Scientific Publications** for Highly Rated Scientific Research, 2018
- Sri Lankan President’s **Award for Scientific Publications** for Highly Rated Scientific Research, 2016
- **Among 1 of the 3** Post-Doctoral Fellows selected from ACCESS Linnaeus Centre, KTH Royal Institute of Technology, Sweden, 2012

- **Best Doctoral Thesis**, Dept. of Comm. Eng., University of Oulu, Finland, 2011
- **Second best paper award**, Asilomar Conference on Signals, Systems and Circuits 2010
- Graduate School in Electronics, Telecommunications and Automation (**GETA**) **grant** for a 4 years of graduate school position in University of Oulu, Finland, 2011
- **Personal research grants**: from research foundations Tauno Tönning Säätiö, Nokia, Olun yliopistin Tuksäätiö, and Tekniikan Edistämissäätiö Stiftelsen
- **The AIT Alumni Association Prize in recognition of the most outstanding academic performance** among students in the School of Engineering and Technology, AIT, Thailand, 2007
- **The Sonera prize in recognition of the most outstanding academic performance among students in Telecommunication**, AIT, Thailand, 2007
- **Kings Scholarship for Education of Asia**, from His Majesty King Bhumibol Adulyadej of Thailand, 2005
- **Mahapola Higher Education (Merit) Scholarship**, from the Mahapola Higher Education Scholarship Trust Fund, 1999/2000

13. OTHER KEY ACADEMIC MERITS

- International Relation Co-Chair of the **IEEE MERCon 2022**, Multidisciplinary Engineering Research Conference, organized by University of Moratuwa, Sri Lanka, 2022
- The resource person of the **Third Research Lounge** held by the Faculty of Graduate Studies, University of Moratuwa, Sri Lanka, August 2022
- A guest speaker in the **Special Session on '5G Evolution and 6G'** of the 16th international conference on Industrial and Information Systems (IEEE ICIIS) 2021
- A member of the **Quality Assurance Committee, University of Moratuwa, Sri Lanka** for the years 2019-2022
- A member of the **Engineering Research Unit, University of Moratuwa, Sri Lanka** for the years 2018-2021
- The Academic Coordinator of semester 5 in the Department of Electronic and Telecommunication Engineering, University of Moratuwa, Sri Lanka for the years 2021, 2022
- An evaluator of a research proposal submitted to the Faculty of Applied Sciences, University of Sri Jayawardenapura, Sri Lanka, 2021
- Certificate of appreciation from **IEEE Communication Society** as an **Exemplary Reviewer** of IEEE Wireless Communications Letters, 2021
- Certificate of appreciation from **IEEE Communication Society** as an **Exemplary Reviewer** of IEEE Wireless Communications Letters, 2020
- Publication Co-Chair of the **IEEE MERCon 2020**, Multidisciplinary Engineering Research Conference, organized by the University of Moratuwa, Sri Lanka, 2020
- A Session Chair of the **IEEE Region 10 Humanitarian Technology Conference** 2018
- A Co-Chair of the **National Conference on Technology and Management** 2016, organized by the Research Center, SLIIT, Sri Lanka
- A member of the **Curriculum Development Committee** of the Faculty of Engineering, SLIIT, Sri Lanka, 2016
- A member of the **Accreditation Committee** of the Faculty of Engineering, SLIIT, Sri Lanka, 2016
- The chairperson of the **Orientation Committee** of the Faculty of Engineering, SLIIT, Sri Lanka, 2016

- A reviewer of the journals IEEE Transactions of Communications, IEEE Wireless Communications Letter, IEEE Transactions of Signal Processing, and IEEE Transactions of Wireless Communications, among others

14. SCIENTIFIC AND SOCIETAL IMPACT

NA

15. OTHER MERITS

- A guest speaker in the **Mathematics Day** of Mahinda Rajapaksha College, Homagama, Sri Lanka, 2018. My responsibility was to enlighten the high school students by highlighting the importance of Mathematics in engineering designs.
- A member of the **Future Minds Career Counselling Program**, Future Minds 2017, National Higher Educational and Career Exhibition, Sri Lanka, 2017. My responsibility was to foster the ambitious, innovative youth of Sri Lanka highlighting future prospects of their career.