

Chathuranga Weeraddana

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🌐 <https://scholar.google.com/citations?user=WOXor3wAAAAJ&hl=en>

1. PERSONAL DETAILS AND THE DATE OF THE CV

Surname Weeraddana
First Names Pradeep Chathuranga
Date of the CV 2023/09/27

2. DEGREES

University of Oulu **Finland**
Doctor of Science, Telecommunication Engineering 2011
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

Asian Institute of Technology **Thailand**
Master of Engineering, Telecommunication Engineering 2007

University of Moratuwa **Sri Lanka**
Bachelor of Science, Electronic and Telecommunication Engineering 2004

3. OTHER EDUCATION AND EXPERTISE

The Open University of Sri Lanka **Sri Lanka**
Induction Training for Senior Lecturers 2019

DeepLearning.AI **USA**
Cert. in Neural Networks and Deep Learning 2021
(Offered through Coursera)

DeepLearning.AI **USA**
Cert. in Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization 2021
(Offered through Coursera)

DeepLearning.AI **USA**
Cert. in Structuring Machine Learning Projects 2021
(Offered through Coursera)

Cisco Systems **USA**
Cisco Certified Network Associate 2005

4. LANGUAGE SKILLS

Native language Sinhala
Other Language Skills English, Fluent

5. CURRENT EMPLOYMENT

Centre for Wireless Communications, University of Oulu **Finland**
Research Scientist, University Researcher 2022/08 - To Date
Intelligent Connectivity and Networks/Systems Group (ICON)

6. PREVIOUS WORK EXPERIENCE

Dept. of Electronic & Telecommun. Engineering, University of Moratuwa **Sri Lanka**
Senior Lecturer, Grade I 2018 - 2022/07
Stage of the academic research career: Third Tier

KTH Royal Institute of Technology **Sweden**
Guest Researchers 2021/03/01 - 2021/06/01
Program: Digital Futures 'Scholar-in-Residence' programme
Source: SFO IT and mobile communication
Working Mode: 3 months Full-Time

Dept. of Electrical & Electronics Engineering, University of Peradeniya **Sri Lanka**
Visiting Lecturer 2018-2022
Working Mode: Part-Time

Dept. of Electronic Engineering, Yangon Technical University **Myanmar**
Instructor, Postgraduate 2019/08/19 - 2019/09/01
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

Dept. of Electronic Engineering, Yangon Technical University **Myanmar**
Visiting Lecturer, Postgraduate 2018/09/10 - 2018/09/20
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

Dept. of Electrical & Computer Engineering, SLIIT **Sri Lanka**
Senior Lecturer, Higher Grade 2015 - 2018

Dept. of Automatic Control, KTH Royal Institute of Technology **Sweden**
ACCESS Postdoc Researcher 2012-2014

7. CAREER BREAKS

NA

8. RESEARCH FUNDING AND GRANTS

KTH Royal Institute of Technology **Sweden**
Guest Researchers 2021/03/01 - 2021/05/31
Program: Digital Futures 'Scholar-in-Residence' programme
Source: SFO IT and mobile communication
Amount: 90000 SEK + living expenses

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: 17

- 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

2022/02/13

- 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.
- 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, 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.
- **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**, M. Codreanu, M. Latva-aho, and A. Ephremides, "On the effect of self-interference cancelation in multihop wireless networks," *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 513952, 10 pages, 2010, doi:10.1155/2010/513952.

10. RESEARCH SUPERVISION AND LEADERSHIP EXPERIENCES

- **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
- **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://chathurangaw.staff.uom.lk/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://chathurangaw.staff.uom.lk/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://chathurangaw.staff.uom.lk/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>

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 <i>Quality Assurance Committee</i> Did bear the responsibilities as a member	Sri Lanka 2021
Faculty of Engineering, SLIIT <i>Accreditation Committee</i> Did bear the responsibilities as a member	Sri Lanka 2016
Faculty of Engineering, SLIIT <i>Curriculum Development Committee</i> Did bear the responsibilities as a member	Sri Lanka 2016

Teaching Experience

Div. of Network and Systems Engineering, KTH Royal Institute of Technology <i>Lecturer, Graduate Course</i> MM Optimization Algorithms with Machine Learning Applications	Sweden 2022/03-2022/06
Faculty of Engineering, University of Moratuwa <i>Lecturer, Graduate Courses</i> Engineering Decision Theory, Broadband Communications, Digital Communications, Advanced Instrumentation	Sri Lanka 2018-2022
Faculty of Engineering, University of Moratuwa <i>Lecturer, Undergraduate Courses</i> 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>	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. EUROPEAN UNION PROJECT PARTICIPATION

DESIRE6G <https://desire6g.eu/project/2023-2025>

Main Focus: Highly-complex and networked control systems, Representation: KTH, The Royal Institute of Technology, Sweden

HYCON2 <http://www.hycon2.eu/?page=0>
2012-14

Main Focus: development of novel technologies that will provide faster, more reliable, and more energy-efficient connectivity than current 5G systems., Representation: University of Oulu, Finland

Hydrobionets <https://cordis.europa.eu/project/id/287613>
2012-14

Main Focus: Autonomous Control of Large scale Water Treatment Plants based on Self Organized Wireless BioMEM Sensor and Actuator Networks, Representation: KTH, The Royal Institute of Technology, Sweden

13. 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

14. 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
- A guest speaker in the **Special Session on '5G Evolution and 6G'** of the 16th international conference on Industrial and Information Systems (ICIIS) 2021
- An evaluator of a research proposal submitted to the Faculty of Applied Sciences, University of Sri Jayawardenapura, Sri Lanka, 2021
- A member of the **Engineering Research Unit, University of Moratuwa, Sri Lanka** for the years 2018-2021
- An evaluator of a research proposal submitted to the Faculty of Applied Sciences, University of Sri Jayawardenapura, Sri Lanka, 2021
- Certificate of appreciation as an **Exemplary Reviewer** of IEEE Wireless Communications Letters, 2020
- Publication Co-Chair of the **IEEE MERCon 2020**, Multidisciplinary Engineering Research Conference, organized by 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
- One of the chair person 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

15. SCIENTIFIC AND SOCIETAL IMPACT

NA

16. 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.