SANJAYA HERATH
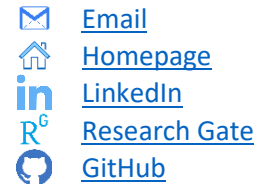
✉ Email
⌂ Homepage
in LinkedIn
R^G Research Gate
○ GitHub

PROFILE

I am a self-motivated, hardworking, and responsible person who can adapt to all challenging situations. I am motivated by research and able to work well both in a team environment and as well as using own initiative. My research interests include signal and image processing, computer vision, and machine learning with several publications.

EDUCATION

- **University of Peradeniya, Sri Lanka**   2015-2020
  B.Sc. in Electrical and Electronic Engineering
  GPA: 4.0/4.0 (**Top** of the class)
  (The complete degree program was conducted and assessed in English medium and accredited by Washington Accord through IESL)

- **Kingswood College, Sri Lanka**   2012-2014
  G.C.E. Advanced Level (Mathematics, Physics, and Chemistry)
  *(Ranked in the **TOP 20** overall in the country)*

PUBLICATIONS

CONFERENCE PAPERS

- **Convolutional Autoencoder for Blind Hyperspectral Image Unmixing**
  D.Y.L. Ranasinghe, S. Herath, H.M.H.K. Weerasooriya, E.M.M.B Ekanayake, G.M.R.I Godaliyadda, H.M.V.R. Herath, M.P.B. Ekanayake
  15th Conference on Industrial and Information Systems (Presenter)   Nov 2020

- **Multispectral imaging for automated fish quality grading**
  J. M. V. D. B Jayasundara, R. M. L. S Ramanayake, H. M. N B Senarath, S. Herath, G.M.R.I Godaliyadda, H.M.V.R. Herath, M.P.B. Ekanayake
  15th Conference on Industrial and Information Systems   Nov 2020

- **Transmittance Multispectral Imaging for Edible Oil Quality Assessment**
  H.M.H.K. Weerasooriya, H.M.S Lakmal, D.Y.L. Ranasinghe, W.G.C. Bandara, H.M.V.R. Herath, G.M.R.I Godaliyadda, M.P.B. Ekanayake, T. Madhujith
  Imaging and Applied Optics Congress, Optical Society of America (Presenter)   Jun 2020

- **Hyperspectral Imaging Based Method to Identify Potential Limestone Deposits**
  D.Y.L. Ranasinghe, H.M.S Lakmal, H.M.H.K. Weerasooriya, E.M.M.B Ekanayake, G.M.R.I Godaliyadda, H.M.V.R. Herath, M.P.B. Ekanayake
  14th Conference on Industrial and Information Systems   Dec 2019

JOURNAL PAPERS

- **Constrained Nonnegative Matrix Factorization for Blind Hyperspectral Unmixing incorporating Endmember Independence**
  E.M.M.B. Ekanayake, B. Rathnayake, D.Y.L. Ranasinghe, S. Herath, G.M.R.I. Godaliyadda, H.M.V.R. Herath, M.P.B. Ekanayake
  IEEE Trans. Geosci. Remote Sens. (under review)   Nov 2020

- **Quantitative assessment of adulteration and reuse of coconut oil using transmittance multispectral imaging**
  S. Herath, H.K. Weerasooriya, D.Y.L. Ranasinghe, W.G.C. Bandara, H.M.V.R. Herath, G.M.R.I Godaliyadda, M.P.B. Ekanayake, T. Madhujith
  Elsevier Journal of Food Engineering (under review)   Nov 2020

OTHER PUBLICATIONS

- **Detecting the Freshness and Class of the Fish using Multispectral Imaging**
  H.M.S Lakmal, H.M.H.K. Weerasooriya, D.Y.L. Ranasinghe, W.G.C. Bandara, E.M.M.B Ekanayake H.M.V.R. Herath, G.M.R.I Godaliyadda, M.P.B. Ekanayake
  IRC 2020, Sri Lanka Technological Campus (Presenter)-Abstract publication   Jun 2020

- **A Multi Spectral Imaging System to Measure Transmittance Spectrum**
  H.M.H.K. Weerasooriya, H.M.S Lakmal, D.Y.L. Ranasinghe, W.G.C. Bandara, H.M.V.R. Herath, G.M.R.I Godaliyadda, M.P.B. Ekanayake.
  Patent Sri Lanka No: 20936 (under review)   Jan 2020

PROJECTS

2ND YEAR PROJECT   2017-2018

- **Color to Sound Mapping Device**
  Color to sound mapping device for visually impaired people

3RD YEAR PROJECT

- **Password Protected Locker**   2018-2019
  Programming pic16f873A from scratch using assembly

- **Child watch**
  A low cost for parent-children communication

FINAL YEAR PROJECT   2019-2020

- **Hyperspectral Imaging for Remote sensing and agricultural applications**
  Application of algorithms for potential mineral deposit detection

- **Multispectral Imaging for food quality assessment**
  Utilize inhouse developed MSI system for coconut oil and fish quality assessment

CONTINUED FINAL YEAR PROJECT   2020-present

- **Deep learning for hyperspectral unmixing**
  Application of deep learning for the hyperspectral unmixing problem

- **Image Processing for food quality Assessment**
  Application of deep learning for real time fish quality assessment

AWARDS

- **C.A. Hewavitharana Memorial Prize for the best performance in Engineering** 2020
  Awarded to the best student among all fields of engineering in the faculty
- **Ceylon Electricity Board Prize for best performance in Electrical & Electronic Engineering** 2020
  Awarded to the best student in the field of Electrical and Electronic Engineering
- **R.H. Paul Prize for Electrical Power & Machines** 2020
  Awarded to the best performing student in the electric power and energy related subject courses
- **W.M.G. Fernando Prize for Electronic Communications** 2020
  Awarded to the best performing student in the Electronic Communications related subject courses
- **Prof. E.F. Bartholameusz Endowment Award for the best student project in Engineering Mathematics** 2020
  Awarded for the best final year project in the Faculty of Engineering with an outstanding mathematical background
- **W.P. Jayasekara Prize for the best student project in Electrical & Electronic Engineering** 2020
  Awarded to the best undergraduate final year project in the Department of Electrical and Electronic Engineering
- **E.F. Bartholameusz Prize for Engineering Mathematics** 2016
  Awarded to the student with highest average mark for the first-year engineering mathematics modules
- **Silver Medal-Sri Lankan Physics Olympiad** 2014
  Organized by the institute of physics, Sri Lanka.
- **Devadasan Challenge Trophy for Best All Rounder** 2014
  Highest school honor, awarded to one student per each batch
- **Best result of Science/Math** 2014
  Awarded for the best result in GCE Advanced Level Examination in school

WORK EXPERIENCE

- **Temporary Instructor at University of Peradeniya** Aug 2020- present
  Conduct tutorial classes on Engineering Mathematics for first year students
- **Volunteer Instructor at University of Peradeniya** Jan 2020- May 2020
  Conduction of laboratory sessions for first year and second year students
- **Engineering intern at Paraqum Technologies, Colombo** Feb 2019- May 2019
  Application and development of several signal processing algorithms for a biomedical project and development of standalone GUI programs
- **Engineering trainee at National Water Supply Board, Kandy** Nov 2017- Jan 2018
  Maintenance of water treatment plants and analysis in power consumption of treatment plants

COMPETITIONS AND EXTRA-CURRICULAR ACTIVITIES

COMPETITIONS

- **1st Place-aces Hackathon** 2018
  ACES, Faculty of Engineering, University of Peradeniya
- **1st Place-Innovators** 2016
  Inventors' Club, University of Peradeniya.
- **4th Place-aces Coders v6.0** 2016
  ACES, Faculty of Engineering, University of Peradeniya
- **Best props Manager at Runner-up stage drama** 2019
  Ceylon Dramatic society, University of Peradeniya

VOLUNTEERING

- **Mathematics and Science Instructor** 2016,2017
  Workshops organized in Kandy, Ratnapura, and Badulla
- **Volunteer organizer** 2017
  IET Present Around the world

SPORTS

- **1st Runner-up** 2009
  All Island School Games-Chess.

SOCIETIES

- **Vice President** 2013-2014
  Science Society and Astronomical Society, Kingswood College
- **Member** 2016-2019
  Drama Society and Music Society, University of Peradeniya

SKILLS

Programming	Python, MATLAB, C, Assembly
Version Control	Git
Design	Proteus, Eagle, AutoCAD
Graphics	CorelDraw, Adobe Photoshop
Type Setting	LaTeX, MS Office

REFERENCES

Available upon request.