



## Anuradha Wickramarachchi

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🎓 Scholar Uid: u-rFXwUAAAAJ

A passionate PhD candidate keen on learning state-of-the art and contributing towards the progress of humanity at large. Capable of teamwork and working under pressure.

### WORK EXPERIENCE

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November 2018 – present

#### Tutor

Tutoring Relational Database Systems.  
School of Computing, Australian National University

December 2017 – July 2018

#### Software Engineer

HATCHYARD Pvt LTD, Sri Lanka

December 2017 – July 2018

#### Junior Consultant

Role of conducting research, student supervision and teaching.  
Department of Computer Science and Engineering, University of Moratuwa, Sri Lanka

July 2016 – December 2016

#### Software Engineer (Intern)

CAKE LABS Pvt LTD, Sri Lanka

### EDUCATION

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August 2018 – present

#### PhD Candidate in Computer Science

School of Computing, Australian National University  
• Computational biology and bioinformatics

2014 – 2017

#### BSc (Hons) Computer Science and Engineering

Department of Computer Science and Engineering, University of Moratuwa, Sri Lanka  
• GPA of 4.01/4.2  
• First class with deans list for all 8 semesters

### TRAINING

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Stanford Online

#### Machine Learning

An online non-credit course authorized by Stanford University and offered through Coursera

NVIDIA

#### Getting Started with AI on JETSON NANO

Offered through NVIDIA deep learning institute

DeepLearning.AI

#### Deep Learning Specialization (In-progress)

Neural networks and deep learning, Hyper-parameter tuning, Regularization and Optimization. Offered through Coursera

Udemy

#### PyTorch for Deep Learning with Python Bootcamp

Training on NumPy, Pandas and PyTorch including CNNs, LSTMs and GPU optimization.

## PUBLICATIONS

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### First Author

- **LRBinner: Binning Long Reads in Metagenomics Datasets**  
*Anuradha Wickramarachchi, Yu Lin* (21st International Workshop on Algorithms in Bioinformatics (WABI) 2021) DOI: 10.4230/LIPIcs.WABI.2021.11
- **PlasLR Enables Adaptation of Plasmid Prediction for Error-Prone Long Reads**  
*Anuradha Wickramarachchi, Vijini Mallawaarachchi, Lianrong Pu, Yu Lin* (Under review at PLOS CB, Presented at GLBIO 2021) DOI: 10.1101/2021.06.14.448306
- **GraphPlas: Refined Classification of Plasmid Sequences using Assembly Graphs**  
*Anuradha Wickramarachchi, Yu Lin* (EEE/ACM Transactions on Computational Biology and Bioinformatics 2021) DOI: 10.1109/TCBB.2021.3082915
- **MetaBCC-LR: Metagenomics Binning by Coverage and Composition for Long Reads**  
*Anuradha Wickramarachchi, Vijini Mallawaarachchi, Vaibhav Rajan, Yu Lin* (Intelligent Systems for Molecular Biology (ISMB) 2020) DOI: 10.1093/bioinformatics/btaa441
- **Use of nomadic computing devices for storage synchronization**  
*Anuradha Wickramarachchi, Dulaj Atapattu, Pamoda Wimalasiri, Ravidu Mallawa Arachchi, Gihan Dias* (International Conference on Information Networking (ICOIN) 2018) DOI: 10.1109/ICOIN.2018.8343204

### Collaborative Work

- **Improving metagenomic binning results with overlapped bins using assembly graphs**  
*Vijini G Mallawaarachchi, Anuradha S Wickramarachchi, Yu Lin* ( Algorithms Mol Biol 16, 3 (2021)) DOI: 10.1186/s13015-021-00185-6
- **GraphBin2: Refined and Overlapped Binning of Metagenomic Contigs Using Assembly Graphs**  
*Vijini G Mallawaarachchi, Anuradha S Wickramarachchi, Yu Lin* (20th International Workshop on Algorithms in Bioinformatics; WABI 2020) DOI: 10.4230/LIPIcs.WABI.2020.8
- **GraphBin: refined binning of metagenomic contigs using assembly graphs**  
*Vijini Mallawaarachchi, Anuradha Wickramarachchi, Yu Lin* (Bioinformatics 2020) DOI: 10.1093/bioinformatics/btaa180
- **Experiential Learning in Bioinformatics-Learner Support for Complex Workflow Modelling and Analysis.**  
*Vijini Mallawaarachchi, Anuradha Wickramarachchi, Anuradha Welivita, Indika Perera, Dulani Meedeniya* (International Journal of Emerging Technologies in Learning) DOI: 10.3991/ijet.v13i12.8608
- **Managing complex workflows in bioinformatics: An interactive toolkit with GPU acceleration**  
*Anuradha Welivita, Indika Perera, Dulani Meedeniya, Anuradha Wickramarachchi, Vijini Mallawaarachchi* (IEEE transactions on nanobioscience) DOI: 10.1109/TNB.2018.2837122

## SOFTWARE/TOOLS

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### Research Related

- Freely available at [github.com/anuradhawick](https://github.com/anuradhawick)
- LRBinner (PacBio/ONT reads clustering tool)
  - MetaBCC-LR (PacBio/ONT reads clustering tool)
  - PlasLR (Plasmid classification extension for PacBio/ONT reads)
  - GraphPlas (Graph based plasmid classification extension tool)
  - Seq2Vec fast memory mapped sequence vectoriser written in C++ (Boost)
  - Seq2CovVec fast coverage vector computations for long reads written in C++ and Python

### Software Engineering

- Freely available at [github.com/anuradhawick](https://github.com/anuradhawick)
- Vinyl.LK (AWS Serverless/Atlas Mongo hosted website for Sri Lankan vinyl records)
  - YOLO Object Annotation Maker

## AWARDS/ACHIEVEMENTS

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- Academic*
- ANU Merit Fee Remission Scholarship
  - Deans list for all 8 semesters during BSc
  - Mahapola Sri Lankan undergraduate scholarship (merit based)
  - GCE Advanced Level Island Rank 68 (District Rank 4)

- Non-Academic*
- Awards
- Merit Award - National Best Quality ICT Awards (NBQSA) Oct 2017 (Sri Lanka) for Final Year Honours Project
  - Merit Award - National Best Quality ICT Awards (NBQSA) Oct 2016 (Sri Lanka) for Taxi Master Project
- Hackathons
- First place: IDEA Challenge 2017
  - Google IO 2016 1st Runners up May 2016
  - First place: IDEA Challenge 2016

## SKILLS

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- Programming*
- Python, C, C++, JAVA, JavaScript, NodeJS, etc
- Industrial experience in ReactJS, MongoDB, AWS Serverless and AWS developer console.
  - Research experience in python, C and C++.

- Tools/Frameworks*
- Bioinformatics tools
- Aligners - minimap(2), BLAST+, Edlib, etc
- Bioinformatics/Programming libraries
- libminimap2, GATK, Edlib, biopython, etc
  - Boost C++ library
- Machine Learning
- Tensorflow, Pytorch, Sci-kit learn

- Languages*
- English professional proficiency and Sinhalese native proficiency.

## ADDITIONAL INFORMATION

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- Interests*
- Blogging, Travelling and Gaming

- Referees*
- Available upon request.