Pankayaraj . P BSc Computer Engineering

✉ pankayaraj1995@gmail.com   🌐 http://punk95.github.io

in https://www.linkedin.com/in/pankayaraj-pathmanathan-259926119/

Employment History

2019-2019 - 5 months   🔖 **Research Assistant Intern** SLTC, QBITS Lab.
- As a first author published an ECC2020 paper
- As a first author published an IEEE CDC 2020 paper

2020-Present - 7 months   🔖 **Research Assistant** SLTC, QBITS Lab.
- Working on task specialization in the context of multi agent multi goal reinforcement learning

2020-Present - 9 months   🔖 **Collaborator** Flowers Laboratory, ENSTA Paris.
- Working on the ways to improve continual offline reinforcement learning with artificial curiosity

Academic Volunteering

2020   🔖 **Peer Reviewer : Journal** IEEE Transactions on Communications
- Impact Factor : 5.69 (2018)
- Done during the undergraduate period

Education

2015-2020   🔖 **B.Sc. Computer Engineering University of Peradeniya, Sri Lanka** 3.5 out of 4 GPA

2002-2014   🔖 **Sri Koneshwara Hindu Colleage Trincomalee**.

Research Publications

Conference Proceedings

1. **Pankayaraj. P**, & Maithripala, D. H. S. (2020). A decentralized communication policy for multi agent multi armed bandit problems [**Presented**], In *European Control Conference 2020, Saint Petersburg, Russia,*

2. **Pankayaraj P**, Maithripala, D. H. S., & Berg, J. M. (2020). A decentralized policy with logarithmic regret for a class of multi-agent multi-armed bandit problems with option unavailability constraints and stochastic communication protocols [**Presented**], In *59th IEEE Conference on Decision and Control, Jeju Island, Republic of Korea.*

3. Jayatilaka, G., Weligampola, H., Sritharan, S., **Pankayraj Pathmanathan**, Ragel, R., &], I. N. [(2019). Non-contact infant sleep apnea detection, In *ICIIS 2019 Sri Lanka.*

Symposiums

1. **Pankayaraj P**, Sumanasekera, Y., Samarasinghe, C., Elkaduwe, D., Jayasinghe, U., & Maithripala, D. H. S. (2020). *Multi-agent reinforcement learning in sparsely connected cooperative environments[**Presented**, awarded the **Best Research Paper**], in ESCaPe 2020, Sri Lanka.*

Under Review

1   **Pankayaraj P**, Sumanasekera, Y., Samarasinghe, C., Elkaduwe, D., Jayasinghe, U., & Maithripala, D. H. S. (2021). *Temporally aware multi-agent reinforcement learning in sparsely connected cooprative enviornments [**Under Review**, in the **13 th Asian Conference on Machine Learning***.

Preprints

1   **Pankayaraj P**, Sumanasekera, Y., & Samarasinghe, C. (2019). *A review on reinforcement learning based autonomous quadcopter control*.

Projects

2020   **Multi-Agent Reinforcement Learning in Sparsely Connected Cooperative Environments** Dealing with the sparse connectivity in multi agent settings.
Report https://drive.google.com/drive/folders/1Jtl88fSC-4xC1kBv4ZEm2rQhojSanBDz

2019   **Reinforcement Learning Based Autonomous Quadcopter Control**
Using Reinforcement Learning algorithms to make Quadcopter control decisions on an AirSim simulated environment

REPORT: https://drive.google.com/drive/folders/16Ej8XL4SRrtHl58FsMMnYDaD5WYWruF9

2018   **A user recommendation method using Bayesian Reinforcement Learning**
Github Link : https://github.com/punk95/sitnshop/tree/BackEndAlgorithm
REPORT : https://drive.google.com/drive/folders/19Sq1UExeANUWQGGVf8EXBCrPRntAFvaF

2017   **Creating a python based library with a Tensor flow back end for Bayesian Optimization and Multi Arm Bandit Problem**
GitHub Link : https://github.com/punk95/Multi-Arm-Bandit-Library
PyPi link : https://pypi.python.org/pypi/mabandit/1.3
REPORT:https://drive.google.com/drive/folders/1H2Pcbfj825LPbYjo3rnKlY0lgRQCFwXb

2018   **SitnShop– An Advertising platform for shops** An advertising platform for anykind of shop and it also helps the customers of the shops to easily find related shops.
Github Link : https://github.com/punk95/sitnshop/
REPORT : https://drive.google.com/drive/folders/1ZcsJkFPDCJhvh8kOyt0LjnxBkJ1cAgaB

  Infant Sleep Apnea detection system : A portable device that can detect Sleep Apnea condition in infants using techniques such as Optical flow, Edge detection, Fourier analysis with python, Raspberry pi.
Github Link : https://github.com/punk95/Sleep_Apnea_Detection
REPORT:https://drive.google.com/drive/folders/17fLXhj1uxl5MuqNqEM46_tYuRsWoXC2Z

  Making a central server for the sleep apnea problem
Technologies : Python, Django, Django rest framework, HTML/CSS,JS
Github Link: https://github.com/punk95/Django_Server_Sleep_Apnea

2017   **ExpertMiner :**
Earth resource location prediction using Hyper Spectral Images from satellites Techniques : Pattern Recognition, Correlation Mapping
Github Link : https://github.com/punk95/HSI_Project

Skills

Languages	▮	Strong reading, writing and speaking competencies for English, Tamil.
Coding	▮	Python , Java, , LaTeX, C++, C, Matlab
Libraries	▮	Tensorflow, Pytorch, Kivy, Numpy, Scipy
Web Dev	▮	Dijango
Intrested Fields	▮	Reinforcement Learning, Deep Learning, Machine Learning, Statistics and Probability, Bayesian Models, Numerical Computation, Algorithmic Problem Solving, Web and GUI development
Misc.	▮	Academic research

Miscellaneous Experience

Awards and Achievements

2017	▮	**ACES Hackathon 2017(Intra university hackathon)** : Project:Expert miner: Softwaresection winners, Best idea of the competition
2016	▮	**ACES Coders v6.0** (Inter university programming competition):Country Rank : 4th
	▮	**IEEExtreme 10.0 Programming competition**(24 hour Global Programming competition Country Rank: 38th World Rank: 330th

References

Dr D.H.S Maithripala
Senior Lecturer
University of Peradeniya,
Peradeniya, Sri Lanka.
smaithri@pdn.ac.lk

Dr. Isuru Nawinne
Senior Lecturer
University of Peradeniya,
Peradeniya, Sri Lanka.
isurunawinne@eng.pdn.ac.lk

Dr Dhammika Elkaduwe
Senior Lecturer
University of Peradeniya,
Peradeniya, Sri Lanka.
dhammika@ce.pdn.ac.lk