SUKIRNA ROY

Github: https://www.github.com/anrikus/
LinkedIn: https://www.linkedin.com/in/anrikus

Primary Email : sukirnaroy@gmail.com
University Email : anrikus@Knights.ucf.edu
Phone : (407)820-9325

Education

University of Central Florida　　　　　　　　　　　　　　　　　　　　　　　　Orlando, FL
Master of Science in Computer Science; GPA: 4.0　　　　*August 2019 – December 2020 (Expected)*
- Courses: Multicore Programming, Advanced Computer Architecture, Advanced Computer Networks, Network Economics, Design and Analysis of Algorithms, Complex Adaptive Systems

Languages / Frameworks

- Languages: Python 3, C++, Netlogo, Visual Basic
- Frameworks: Jupyter Notebook, Pytorch, AWS, Google Colab, ION-DTN, ZeroMQ

Experience

Indian Space Research Organisation　　　　　　　　　　　　　　　　　　　　　　　　India
Operations Manager　　　　　　　　　　　　　　　　　　　　　*October 2013 – June 2019*
- Spacecraft launch and de-orbit operations: Successfully directed and optimized ground support for launch, early phase and de-orbit operations with 33% reduction in manpower requirement [5+ launches].
- Spacecraft on-orbit operations: Directed, up-scaled and optimized operations to 2x initial capacity with 66% reduction in manpower requirement [Fleet of 25+ spacecrafts].
- Personnel Training Program: Successfully coached 75+ new engineers in operational procedures over a span of 5 years.

Software Engineer　　　　　　　　　　　　　　　　　　　　　*October 2013 – June 2019*
- Geosat linked archival system [Starburst MFTP]: Designed and developed software infrastructure for sat-link based high throughput data archival systems resulting in 85% cost savings [$93,500 savings/instance].
- CCSDS infrastructure compliance: Successfully delegated online deployment of CCSDS compliant infrastructure, ensuring global operability [70+ communication pipelines].
- Low cost Antenna Control System [Visual Basic]: Engineered and maintained in-house antenna control system resulting in 80% cost savings [$12,000 savings/instance].

Publications

- NASA Interplanetary Overlay Network Emulator: Design Principles and Performance Analysis: Presented and published in proceedings of ISRO Seminar on Computers & Information Technology 2015, evaluating the performance of NASA's ION-DTN in varying link conditions.
- Enablers of IoT and their Security and Privacy Issues: Published in Internet of Things (IoT) in 5G Mobile Technologies, by Springer International Publishing AG, Cham, ISBN 978-3-319-30913-2, a survey of the current state of technologies capable of enabling the Internet of Things and their ability to be used as secure channels of communication.

Projects

- NASA Interplanetary Overlay Network Emulator [C, Bash]: Designed and coded emulator to evaluate the performance of protocol stacks over varying link conditions. Utilized to evaluate the performance of NASA's ION-DTN.
- Lock free concurrent data structures [C++]: Designed and coded lock free, linearizable and concurrent stacks, queues and hash maps using descriptor objects and atomic instructions.
- Cellular automata-based simulations [Netlogo]: Designed, coded and studied multiple cellular automata-based simulations for fire front propagation, epidemic spread and civil violence.

Fellowships

- Fast.ai International Deep Learning Fellowship, 2017 [Jupyter Notebook, Pytorch, AWS]: Deployed models implementing Linear Regression, CNN, RNN, Transfer Learning, Style Transfer, GAN.