Muhammad Salah Osman

Kyoto, Japan
(080) 9751-4092
2022mm07@kuas.ac.jp
Github | LinkedIn | Website

Master's student at Kyoto University of Advanced Science in Japan, I have professional research experience in AI for Earth Observation, Deep Learning, Satellite Imagery, and data processing. I have strong software engineering experience in back-end development, front-end development, and cross-platform mobile development.

EDUCATION

Kyoto University of Advanced Science — **Kyoto, Japan**
MS in Engineering, Research in Satellite Remote Sensing — *Sept. 2022 - Aug. 2024*
Super KUAS-E Scholarship Recipient.
Deep Learning algorithms for water quality monitoring using satellite data.

Alexandria University — **Alexandria, Egypt**
BS in Computer and Systems Engineering, CGPA: 3.3 — *Sept. 2016 - Jul. 2021*
Graduation Project: Deep learning system to generate music based on a given sentiment.

Hiroshima University — **Hiroshima, Japan**
Short-term cultural program — *Aug. 2019 - Sept. 2019*
Learned more about the Japanese language and the Japanese culture in Hiroshima.

PROFESSIONAL EXPERIENCE

Sansan — **Remote, Japan**
Software Engineering Intern — *Jun. 2023-Present*

- I am working remotely with a global team of engineers to implement backend and frontend features in Sansan's Bill One product using Kotlin and Reactjs.

Kyoto University of Advanced Science — **Kyoto, Japan**
Teaching Assistant — *Sept. 2022–Present*

- Helping students with C Programming & grading assignments.

Research Assistant — *April. 2023–Present*

- Researching Chla estimation algorithms and building innovative deep learning model architectures for Chla Estimation.

Rubikal, INC. — **Alexandria, Egypt**
Software Engineer — *Dec. 2020–Aug. 2022*

- Worked as a React Native Engineer on a food catering application.
- Developed Back End RESTful APIs using Ruby on Rails for several multinational clients.
- Participated in business decision-making from a technical design perspective.

Software Engineering Intern — *Jul. 2020–Sept. 2020*

Implemented an internal tool to handle food ordering inside the company using Ruby on Rails.

Chamber DS — **Remote**
Freelancer React Native Mobile Developer — *Aug. 2021–Apr. 2022*

- Working as a React Native Developer on a product for athletes called InnerPro in the US.

Personal Projects

- 3LATNet (Under publication): a deep learning model for estimating Chla concentration from SGLI/GCOM-C.
- 1D Convolutions Deep Learning model for estimating Chl-a in the water from MSI/Sentinel-2 data.
- B1D-CNN: A novel approach for merging deep learning Chla estimator with the classical Blend Chla algorithm.
- Multi-view Knee MRI diagnoses classification using VGG16 Convolutional Neural Network.
- Implementing Artificial Neural Network in C language.
- Sotra: a Mobile Application for laundry requests and services, built using a stack of PostgreSQL, Ruby on Rails, and React Native. The app was launched in Egypt and operated in the market for three months.

Technical Skills

Programming Languages

Python, C/C++, JavaScript, TypeScript, Kotlin, Java, Ruby

Frameworks & Technologies

- Keras, Tensorflow, Deep Learning
- Numpy, Matplotlib, Pandas
- React Native, Redux, Cross Platform Mobile Development (Android & IOS)
- Ruby on Rails, RESTful APIs, Databases, Back-end development
- Docker, Containerization, AWS, Microservices.
- OSx, Linux, Git

Courses

- Coursera: Machine Learning (Andrew Ng)
- Coursera: Deep Learning Specialization
- Intro to Neural Computation (Dr. John A. Bullinaria)
- BerkeleyX: CS188 Artificial Intelligence (Edx)
- Finance for Non-Finance Professionals (Rice University)
- Microeconomics Principles (University of Illinois)

Achievements & Activities

- Second place best-in-category in Intel BASEF (2016).
- Second place in Hult Prize Alexandria on-campus for our environmental solution: Plantopia (2019).
- ACM Student Chapter Academic Head (2018).

Publications

- Muhammad Salah, Hiroto Higa, Joji Ishizaka, and Salem Ibrahim Salem, 1D Convolutional Neural Network-based Chlorophyll-a Retrieval Algorithm for Sentinel-2 MultiSpectral Instrument in Various Trophic States, Sens. Mater., Vol. 35, No. 11, 2023, p. 3743-3761.
- M. Salah, H. Higa, J. Ishizaka and S. I. Salem, "B1D–CNN: A Novel Convolution Neural Network-Based Chlorophyll-A Retrieval Algorithm for Sentinel–2 Data," IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Pasadena, CA, USA, 2023, pp. 3950-3953, doi: 10.1109/IGARSS52108.2023.10281795.

References

- Prof. Salem Ibrahim Salem (Master's Degree Supervisor): salem.ibrahim@kuas.ac.jp
- Prof. Nagwa El-Makky (Bachelor Thesis Supervisor): nagwamakky@alexu.edu.eg
- Prof. Osamu TABATA (KUAS Dean): tabata.osamu@kuas.ac.jp
- Prof. Ian Piumarta (Professor at KUAS): ian.piumarta@kuas.ac.jp