Husam Solachuddin

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EDUCATION

University of California, Irvine   **Dec 2024**
Major: Computer Science B.S. | Specialization: Intelligent Systems   GPA: **3.70** | CS GPA: **3.76**
Honors and Awards: Regents' Scholar, Dean's Honor List

Relevant Coursework
ML and Data Mining, Data Structures, Algorithms, Full Stack Deep Learning, System Design, Operating Systems, Info Retrieval

PROJECTS

Detecting Unelectrified Settlements   Jan 2024 - Now
Python, Pytorch, CV2, JSON, MatPlotLib, SciPy   **APPLIED DEEP LEARNING**
- Preprocessed remote sensing data of Sub Saharan Africa from an IEEE dataset of Sentinel-1, Sentinel-2, VIIRS, and Landsat satellites into tiles and subtiles of image stacks and metadata
- Implemented various data augmentation techniques (grid-slice, restitch, blur, noise, flip) for improved generalization
- Currently implementing ResNet50 on Sentinel-1 data and SegNet on VIIRS data to identify settlement and electricity maps respectively

Google Street View Digit Recognition   Dec 2023
Python, Tensorflow, Keras, Matlab, Pytorch, Scikit-Learn   **MACHINE LEARNING AND COMPUTER VISION**
- Used Keras to create a Convolutional Neural Network trained on SVHN dataset, achieving 91% accuracy
- Trained a Logistic Regression model from Scikit-Learn on the same dataset as a control model
- Pre-processed images from the SVHN database to ensure learner compatibility
- Created variational autoencoder to generate images of class labels using Pytorch
- Generated heat maps of both models to identify key features extracted by each model using Tensorflow

ZotVotes   May 2023
C, Docker, Pthread   **API, SERVERS AND MULTITHREADING**
- Constructed a multi-threaded poll voting server in a Docker container for UCI students in a Linux environment
- Translated protocol messages between the polling server with PetrV API to ensure interoperation
- Utilized threads and synchronization locks to guarantee proper concurrency and data integrity

Tuter   Jun 2020
Figma   **UI/UX DESIGN**
- Created an application tailored to support students facing challenges in distance learning
- Responsible for both prototyping app and business model
- Project link: https://devpost.com/software/tuter

EXPERIENCE

UC Irvine ICS— Lab Assistant   Dec 2023 - Now
Python, Git   Irvine, CA
- Assists students in understanding programming concepts, tools, and Python libraries
- Debugs students' Python code and answers students' doubts during lab and office hours

Mathnasium— Instructor   Aug 2019 - Jan 2023
Excel   Tracy, CA
- Taught math and provided SAT preparation to high school students across varying math levels
- Managed and monitored individual student progress for the company database

SKILLS

Languages:	Python, C++, C#, C, Objective-C, Java, Javascript, SQL, R, Assembly, HTML/CSS
Libraries:	Numpy, Pandas, Scikit-learn, MatPlotLib, TensorFlow, Keras, OpenCV, Pytorch, Lxml, NLTK/spaCy
Tools:	MATLAB, Anaconda, Linux, Windows, AWS, Jupyter, Docker, Git, VS Code, Figma, Excel
Communication:	English, Indonesian