Wayland Minhas Singh

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Experience

DATA SCIENCE FELLOW - THE DATA INCUBATOR **June 2020 – Present**

- Developed webapp predicting approval time of San Francisco building permits using NLP for feature engineering, combined imbalanced classification and generalized linear model regression
- Completed projects: TensorFlow Neural Networks for image classification, NLP analysis of Yelp reviews, data wrangling with SQL, spark and pandas, and Machine Learning (with time-series forecasting)

TEACHING ASSISTANT - UC DAVIS **2015 – 2017**

- Led two courses teaching undergraduates to safely operate fabrication shop equipment
- Advised undergraduates throughout the ideation and prototyping stages of their final design projects

JUNIOR SPECIALIST - UC DAVIS **2014 – 2015**

- Worked with an remotely piloted spray platform that delivered fertilizers to crops, and determined commercial viability by analyzing the effects of growing the operation and prototypes to scale
- Collected and verified data from ultrasonic anemometers for US Forest Service spray drift prediction model (AGDISP)
- Handled field operations for unmanned aerial vehicle trials in Napa Valley vineyards, such as ground management, fuel loading, aircraft reassembly, and transportation between trial sites

Projects

AERIAL SIGNALLING FOR AGRICULTURAL OPERATIONS https://github.com/waylandsingh/AAB

Created a prototype to examine the reliability of ground to air signalling in ag. aviation and reducing collisions and chemical exposure. Presented results at the Pesticides, Antimicrobials, and Alternative Control Agents symposium (ASTM E35).

- Modeled a rotating beacon using synthetic operation dynamics and rotation matrices in MATLAB, and programmed the beacon to operate under the same parameters using Arduino (C++)
- Transformed the video, GPS data to a relative coordinate frame in MATLAB to verify model accuracy

UTILITY COST SAVINGS FOR CAMPUS BUILDINGS

- Identified $23,000 in annual savings from hydronic heating systems using demand data and regression analysis

MOBILE IRRIGATION IN UGANDA WITH AGRIWORKS LTD. https://www.youtube.com/watch?v=Eq_1bAmn3Do

- Streamlined the operation of a motorcycle powered irrigation system, built and shareable locally

Education

Master of Science in Biological Systems Engineering | University of California Davis | Dec. 2018

Bachelor of Science in Biological Systems Engineering | University of California Davis | June 2014

Technical Skills

DATA SCIENCE: Generalized Linear Regression | Logistic Regresion | PCA | Decision Trees | Random Forest | Naive Bayes | Neural Networks (DNN, CNN) | TensorFlow | Keras | Transfer Learning | NLP | Python | Pandas | Web Scraping | NumPy | Matplotlib | Seaborn | Bokeh | IPython | Spark | SQL | Bash | Git

ENGINEERING: MATLAB | Arduino (C/C++) | Process Modelling | Prototyping | Sustainable Design | Stakeholder Analysis