JIANRU DENG
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SUMMARY: Specializing **Software Development, Web Development** and **Machine learning**, currently looking for **Full Time** positions in industry. I hold **Electrical Engineering Master Degree** from **University of California - Santa Cruz** and can start working ASAP.

EDUCATION

University of California - Santa Cruz
Master of Science in Electrical Engineering 04/05/2017 - 12/14/2018

Sichuan University & Eastern New Mexico University
Bachelor of Science in Electrical Engineering 09/052012 - 06/14/2016

SKILLS

- **Courses:** Linear Algebra, Calculus, Probability Statistics, Complex Functions and Integral Calculus Conversion, Algorithm, Data Structure, Machine Learning, Computer Network and Communication, Data Mining, Data Communication, programming language in C, HTML CSS and JavaScript for Web Developer.
- **Machine Learning Libraries:** Scikit-Learn, Numpy, Pandas, Matplotlib, Tensorflow, Keras, Anaconda
- **Data Processing and Management Tools:** Microsoft Excel (Advanced), Google Spreadsheet, MySQL, GitHub
- **Compiler and Document Preparation Tools:** Microsoft Visual Studio Code, Eclipse, Intellij, Notepad++, Sublime Text 3, LaTex
- **Web Design Tools:** Git, Broswer Sync, NodeJs, JSFiddle, CodePen, Adobe DreamWeaver CC, Photoshop, MAMP, Postman
- **PCB and EDA Design Tools:** PSpice, Hspice, Cadence OrCAD, Xcircuit, EasyEDA, RSLogix, Keil, Quartus Prime, Vivado Design Suite, NgSpice, Magic VLSI, IRSIM
- **Operating Systems:** Windows, Mac OS, Ubuntu Linux
- **Simulation Tools:** Matlab, MEMS Pro, ModelSim
- **Programming Languages:** Java, C, CUDA, Fortran, Python, HTML5, CSS, JavaScript

WORK EXPERIENCE

- **HR Generalist** UCSC Compensation Unit 01/2019 - Present

Assist with wage implementations using **Microsoft Excel (Advanced)**, gathering information for purposes of salary analysis, plotting pi chart, histogram, conducting research and perform administrative and specialized tasks. Maintain human resources information system records and complies reports from database. Be responsible for the distribution of work to analyst and maintains statistics of compensation actions. Run compensation reports and assist in maintaining annual STAR Awards Program.

- **UCSC Nanoelectronic Integrated System Laboratory** Graduate Student Researcher 04/2017 - 06/2018

Design the physical neural network model using cross-bar memristor array and CMOS for decimal image recognition. Visulize the memristor characteristics in V-I domain with Matlab and test the thermal tolerance of memristor using different manufacturing materials including copper and silver.

PROJECTS

GitHub: https://github.com/jdeng13

- **A Restaurant Recommendation Website Based on Yelp API** 09/2018 - 10/2018

Developed an interactive web page (**HTML/CSS/Javascript**), developed a web service using (**Java servlet, REST API**) to fetch restaurant data from Yelp API, utilized **MySQL** to store restaurant information, implemented a content-based recommendation algorithm.

- **UCSC Nanoelectronic Integrated Systems Laboratory website management** 04/2017 - 06/2018

Design and edit web content using **HTML5**, **CSS**, **JavaScript**; Edit photos using **PhotoShop**; Synchronize data between local computer with UCSC server using WebDav.

- **Handwritten Digit Recognition using Convolutional Neural Networks in Python** 10/2018 - 12/2018

Load the MNIST dataset in Keras, develop and evaluate the neural network model for the MNIST problem, implement and evaluate a simple Convolutional Neural Network for MNIST, and implement a close to state-of-the-art deep learning model for MNIST.

- **Implement Logistic Regression with Stochastic Gradient Descent in Python** 10/2018 - 12/2018

Make predictions with a logistic regression model, estimate coefficients using stochastic gradient descent, apply logistic regression to Pima Indians diabetes dataset and evaluate the model.

- **Text Classification with Naive Bayes in Python** 10/2018 - 12/2018

Implement the Naive Bayes algorithm on Enron-spam dataset and evaluate the accuracy. Implement versions with and without Laplace smoothing and evaluate the performance of the classifier.

- **Estimation of Fuel Consumption and Carbon Dioxide Emission of Cars in Python** 11/2018 - 12/2018

Apply **linear regression** to the vehicle dataset that contains Engine Size, number of Cylinders, etc., and call **Scikit-Learn**, **Numpy**, **Scipy** libraries to evaluate the linear regression model, finally predict Co2 emission for new cars.

- **OpenMP Device Offloading to FPGA Accelerators in C, FORTRAN** 04/2018 - 06/2018

Use **OpenMP** multithreaded technique to help express the offloading of an existing reconfigurable binary code, runtime system implementation that supports to offload the execution of bitstreams. Operation was done in **Linux**, **CUDA** was written in **C**.

- **Solar Powered Golf Cart with Speech Recognition** 01/2016 - 05/2016

Determine the maximum power transfer from solar panel (18% efficiency) to the battery using Maximum Power Point Tracking (MPPT) method. Use STM32F415XX IC Voice Recognition Board as test board and program ARM 32-bit Cortex-M4 CPU with FPU for voice recognition.

- **Magnetic Field Measurement and Data Visualization** 01/2013 - 05/2013

Measured the magnetic field around a set of Helmholtz coils using Hall Effect and used **data visualization** techniques to visualize the distribution of the magnetic field