CHIH CHIN TSAI (Tony)

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Education

Texas A&M University (College Station) — **College Station, Texas, USA**

*M.S. in **Computer Engineering**. GPA:* **4.0**/4.0 — Jan. 2020 – Apr. 2022 (expected)

National Cheng Kung University — **Tainan, Taiwan**

*B.S. in **Chemical Engineering**. GPA:* ***3.24***/4.0 — Sept. 2010 – June 2014

Skills

Languages: Python, Java, JavaScript, CSS, HTML

Tools & Frameworks: Django, Node.js, Express, jQuery, React.js & Redux, MySQL, PostgreSQL, Google App Engine, Git

Courses

CSCE 606 Software engineering, CSCE 629 Analysis of Algorithms, CSCE 689 SPTP: SFTWR ENG FOR SCI/ENG

Online Courses: Database design, Object-Oriented Programming, Data Structure

Projects

Web Design - Tracking System (CSCE 606), Group Project — May, 2020

- Adapted **agile development** on legacy code and successfully achieved all the customer requirements **within 1 month**.
- Developed a tracking system for CS department stuff to record students' profiles based on **Django framework**.
- Deployed a production web on **Google App Engine** platform in conjunction with **MySQL** in **Linux environment**.

  URL: https://lateral-insight-272819.appspot.com
- Added new features like **Cloud Drive**, **CSV parse** function, user authentication and **Search interface** based on customer feedbacks.
- Used **Django admin** and **MTV structure** to connect frontend with backend.

RosenBrock Function Optimization (CSCE 689), Course Project — May, 2020

- Transformed a math source code into a **Python OOD (Object Oriented Design)** package and built a test suite using **PyTest**.
- Optimized the code using **NumPy/SciPy** and overall run time has been improved from **206ms to 13ms** (10 times faster).
- Utilized **Matplotlib** for visualizing the function results. Git: https://github.com/CCTSAI-Tony/CSCE689_FINAL_PROJECT

Full Stack Facial Recognition App, Personal Project — Jun, 2020

- Established a web app to locate the human faces of an image link uploaded by users.
- Completed the frontend with **React.js** to display an interactive UI in reusable objects manner.
- Employed **Express.js** and **PostgreSQL** to serve the backend and followed **RESTful API** to connect the routes.
- Deployed the project on **Heroku** and **Git**. URL: https://smart-brain3344.herokuapp.com

RoboFriends React.js App, Personal Project — Jun, 2020

- Established a web app to fetch Third Party Web Services for creating virtual robofriends.
- Applied **Redux** package to the project to implement stateless web function.
- Deployed the project on **Git.** URL: https://cctsai-tony.github.io/robofriends

Publication: https://www.nature.com/articles/s41598-018-30996-4

- W.-P. Hu, C.-C. Tsai, Y.-S. Yang, H. Wai-Hong Chan, W.-Y. Chen, Synergetic improvements of sensitivity and specificity of nanowire field effect transistor **gene chip** by designing neutralized DNA as probe. Scientific Reports, vol. 8. (2018)

Work Experience

Taiwan Semiconductor Manufacturing Company — **Hsinchu, Taiwan**

Process Engineer (Lithography) — Aug. 2016 – Nov. 2019

- Developed Cu/Al process flow in lithography module and improved yield rate of Microelectromechanical system (MEMS) product.
- Tuned up a validate software to detect weak patterns from reticle's layout and made a new spec of tighten patterns in reticle.