# Ting-Wei Wu

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## Education

**University of California, Berkeley** — Berkeley, CA
*Master of Engineering in Bioengineering; GPA: 3.83* — *Aug. 2017 – May. 2018*

**National Taiwan University** — Taipei, Taiwan
*Master of Science in Electronics Engineering; GPA: 4.00 (4.22/4.3)* — *Feb. 2016 – Jul. 2017*
*Bachelor of Science in Electrical Engineering; GPA: 3.82 (3.93/4.3)* — *Sep. 2012 – Jun. 2016*

## Experience

- **UC Berkeley Streets Lab of Microfluidics and Genomics** — Berkeley, CA
  *Graduate Research* — *Aug. 2017-May. 2018*
  - **Chip Design**: Expedited high-throughput droplet enclosing hydrogel beads and single cells for RNA sequencing.
  - **Data Analysis**: Applied qualitative machine learning methods in python and MATLAB for 1000+ droplet data.
- **NTU CMOS Biotechnology Lab** — Taipei, Taiwan
  *Graduate Research* — *Jan 2014 - Oct 2016*
  - **Device Fabrication & Data Collection**: Devised new impedance sensing method for flow cytometry device to classify cell properties (size, position, type) with ML methods (Naive-Bayes, GMM, K-means, Neural Networks).
  - **Signal Processing**: Integrated microfabrication skills like soft-lithography and evaporation and matlab programming in frequency-dependent analysis and cell library database creation.
  - **Work Publications**: Published work as the first-author in manuscript: ACS Sensors and conferences: MicroTAS '17, IEEE NEMS '17 and IMCS '16.
- **Getac Technology Corp.** — Taipei, Taiwan
  *R&D Intern* — *Jul.-Aug. 2014*
  - **Project Management**: Led 10+ person multi-disciplinary project team with senior engineers to design a wireless monitoring device using a raspberry pi controller for observing infant behavior.
  - **Raspberry Pi**: Controlled Raspberry Pi GPIO with python and IC chip layout for cpu operation and exterior mechanical design using SolidWorks and AutoCAD.
- **NTU Biomedical Engineering and Electronics Engineering** — Taipei, Taiwan
  *Lead Teaching Assistant* — *Aug. 2016-Jun. 2017*
  - Chaired discussions for 3 courses of Biomedical Device Innovation and meetings with 6+ clinical doctors.

## Projects

- **Naruto character generation by AI**: Simulated the style drawing of Naruto figures to construct new naruto characters completely by artificial intelligence with deep convolutional generative adversarial networks (GAN).
- **Fire Data Scraping and Database Management**: Database management and scraping with Excel VBA, python (requests, selenium, bs4), SQL for fire event information processing.
- **Malaria Prediction with cell image classification**: Classify and diagnose disease possiblity of a malaria cell dataset with modified resnet50 structure implemented with pytorch.
- **Chinese lyrics generation with popular singer style**: Trained machine to generate Chinese lyrics based on composed songs from four popular singers in Taiwan by pytorch.
- **Sales Prediction on "1C" Competition**: Kaggle competition for predicting next-month sales for each item for the largest Russian software firm based on time-series dataset. Implemented data cleaning approach, mean-encoding for feature generation and final prediction with xgboost library.
- **AI chatbot for stackoverflow code queries**: Constructed a chatting robot serving on telegram messenger which responded code queries from stackoverflow answers by custom seq2seq model with attention mechanism.

## Programming Skills

- **Languages**: Python, Matlab, C++, SQL, Verilog, VBA, Java
  **Technologies**: AWS, AutoCAD, 3ds Max, Photoshop, COMSOL, Solidworks, Microfabrication