

Shoujun Gu, Ph.D

Current Status: Green Card

Rockville, Maryland

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<https://shoujungu.github.io/introduction/> | <https://www.linkedin.com/in/shoujungu/>

Technical Skills

Programming Language:

- Python: Numpy, Pandas, Matplotlib, Beautiful Soup, Scikit-learn, Tensorflow
- R
- Javascript

Bioinformatics:

- NGS data workflow: RNASeq, ChIPSeq
- Database mining: NCBI, TCGA, cBioportal, Firehose
- Various bioinformatics tools

Molecular & Cellular Biology:

- Gene expression assay
- Protein binding assay
- Mammalian cell cultures
- Other molecular & cellular experiments

Database:

- MySQL

Operating System:

- Linux: Ubuntu
- macOS
- Windows

Experience

The George Washington University, Washington, DC

Oct 2015 –

Postdoctoral Researcher

- Studying potential biomarkers of colon cancer and their molecular mechanisms;
- TCGA data mining and analyzing of Pan-Cancer Atlas in the TGF- β signaling (published on *Cell Syst*, 2018, co-author) ¹
- Published review article entitled “Alcohol, stem cells and cancer” (published on *Genes Cancer*, 2017, first author) ²
- Discovered an aberrant regulation pathway between TGF- β signaling and cancer biomarker CEA in colon adenomas by using both whole genomic sequencing and whole transcriptome sequencing methods (published on *PLoS One*, 2016, co-author) ³
- Discovered that Vitamin D promotes liver tumor progression in TGF-beta deficient environment by using both in vivo mouse model and bioinformatics tools (published on *Sci Rep*, 2016, co-author) ⁴

National Institutes of Health, Bethesda, MD

Oct 2012 – Sept 2015

Visiting Fellow

- Discovered that Wnt5a-induced Vangl2 phosphorylation is a key step for planar cell polarity (PCP) signaling initiation and establishment by showing phosphorylated Vangl2 exhibits altered interaction with other PCP proteins and forms self-aggregation
- Generated myc-Prickle1 knock-in mice by using CRISPR/Cas9 genome editing technique
- Discovered that Casein Kinase 1 ϵ/δ conditional knockout mice exhibit significantly shortened long bones and delayed limb development

Education

The George Washington University, Washington, DC

Oct 2017 – Apr 2018

Data Analytics Boot Camp

- An intensive 24-week long boot camp dedicated to Data Mining and Analytics Skills on a variety of real-world problems

UT Health Science Center at San Antonio, San Antonio, TX

Aug 2005 – May 2012

Ph.D. Department of Biochemistry

- Oral presentation in American Society for Bone and Mineral Research 2008 Annual Meeting
- Discovered that the Twist1 inhibits Sox9 transactivation through protein-protein interaction between Twist1 C-terminal domain and Sox9 DNA binding domain, which results in negative regulation of chondrogenesis (published on *J Biol Chem*, 2012, first author)⁵

Fudan University, Shanghai, China

Aug 2000 – May 2004

B.S. Department of Life Science

Other Data Analytics Projects

Built a machine learning model to predict the significance of a research project based on its abstract

- Details available at: https://github.com/shoujungu/Impact_Factor_Pred
- Sample app available at: <https://if-pred.herokuapp.com>

Interactive visualization of US healthcare providers data

- Details available at: https://github.com/shoujungu/US_Healthcare_Providers
- Sample app available at: <http://hcproviders.herokuapp.com>

Data mining and analysis on all healthcare publications (Year: 2017) in PubMed database

- Details available at: https://github.com/shoujungu/2017_Pubmed_Analysis

Publications

1. <https://www.ncbi.nlm.nih.gov/pubmed/30268436>
2. <https://www.ncbi.nlm.nih.gov/pubmed/29234487>
3. <https://www.ncbi.nlm.nih.gov/pubmed/27100181>
4. <https://www.ncbi.nlm.nih.gov/pubmed/27456065>
5. <https://www.ncbi.nlm.nih.gov/pubmed/22532563>