

# Guangyu Shan

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**RESEARCH INTERESTS** I am interested in bioinformatics algorithm development. Previously, I also worked on text mining and IVD product development.

**EDUCATION** *Master of Science, Bioinformatics* 2013 - 2016  
**Academy of Military Medical Sciences**, Beijing, China  
GPA: 79.0/100  
Dissertation: Data Mining and Feature Selection of High Dimensional Biomedical Data Based on TCGA and PubMed Databases  
Advisor: [Prof. Chenggang Zhang](#)

*Bachelor of Engineering, Bioengineering* 2009 - 2013  
**Wuhan Institute of Bioengineering**, Wuhan, China  
GPA: 88.9/100  
Dissertation: Preparation of Chitosan Degradation Enzymes from *Aspergillus oryzae* by Solid-state Fermentation

**EXPERIENCE** *R&D Manager* Jul 2016 - Present  
R&D Department, Novogene Corporation, Beijing, China

- Two promotions in two years.
- Responsible for the development, deployment, and maintenance of bioinformatics pipelines, focusing on improving robustness and accuracy, such as MSI, TMB, BRCA1/2 variants auto-interpretation pipelines, etc.
- Manage project workflow of sample processing and data transfer, in collaboration with project managers and data engineers.
- Work with interdisciplinary team to prototype and implement functional and design specifications for IVDs.

**COMPUTER SKILLS** *Basic:* Python = R > Shell > Scala, Linux/Mac OS X = Vim = Docker > LaTeX > Git, MySQL > MongoDB

*Advanced:* Cancer Genomics, Machine Learning, Text Mining, NGS algorithm development

**HONORS & AWARDS** *Outstanding Employee Award (10/1500)* 2018  
Novogene Corporation, Beijing, China

*Distinguished Alumni Award* 2017  
Wuhan Bioengineering Institute, Wuhan, China

*Outstanding Student Award* 2014  
Institute of Radiation Medicine, AMMS, Beijing, China

*Rank 7th in Men's 1500-metre Race in the Sports Meeting* 2011  
Wuhan Bioengineering Institute, Wuhan, China

**PUBLICATIONS**  
(Peer reviewed,  
\* co-first author)

1. **Guangyu Shan**, Lin Zhao, Lei Li, et al. [Comparison of Tumor Mutational Burden \(TMB\) derived from whole exome and large panel sequencing in lung cancer](#) [C]. 2017, IASLC 18th World Conference on Lung Cancer (IASLC WCLC 2017), Yokohama, Japan.
2. **Guangyu Shan**, Lin Zhao, Lei Li, et al. A target sequencing-based method for detecting microsatellite instability [C]. 2017, Chinese Society of Clinical Oncology (CSCO), Xiamen, China.
3. **Guangyu Shan**, Yiming Lu, Wubin Qu, et al. [A customized literature service based on WeChat public platform](#) [J]. Chinese Journal of Bioinformatics, 2015, 13(2): 120-124. [In chinese]
4. **Guangyu Shan**, Yiming Lu, Wubin Qu, et al. [Topological characteristics of postoperative survival rate-related molecules in hepatocellular carcinoma-associated complex networks](#) [J]. Military Medical Sciences, 2015, 39(9): 691-693. [In chinese]
5. **Guangyu Shan** \*, Yiming Lu, Bo Min, et al. [A MeSH-based text mining method for identifying novel prebiotics](#) [J]. Medicine, 2016, 95(49): e5585.
6. Yiming Lu, **Guangyu Shan** \*, Jiguo Xue, et al. [Defining the multivalent functions of CTCF from chromatin state and three-dimensional chromatin interactions](#) [J]. Nucleic Acids Research, 2016, 44(13): 6200-6212.
7. Yiming Lu, Wubin Qu, **Guangyu Shan**, et al. [DELTA: A distal enhancer locating tool based on AdaBoost algorithm and shape features of chromatin modifications](#) [J]. PloS one, 2015, 10(6): e0130622.

**PATENT**

1. **Guangyu Shan**, Xia Ran, Yan Wang, et al. [A NGS-based software for detecting MSI in colorectal cancer](#). ID: CN107058551A; Date: 20170818.

**SOFTWARE  
COPYRIGHT**

1. **Guangyu Shan**, et al. [A NGS-based software for detecting MSI in colorectal cancer \[NovoMSI\] V1.0](#). Beijing Novogene Technology Co. Ltd. Registration ID: 2017SR206733; Registration Date: 20170525.
2. **Guangyu Shan**, et al. [A customized literature service system based on WeChat public platform \[PCRMaster\] V1.0](#). Institute of Radiation Medicine. Registration ID: 2016SR177461; Registration Date: 20160712.