# SHAUN PORWAL

## CONTACT INFO


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shaunporwal.com

github.com/shaunporwal


## EDUCATION

2021-2019

**Icahn School of Medicine at Mount Sinai**
Master's in Biomeidcal Data Science — New York, NY

*Relevant Coursework*:

Bioinformatics Capstone, **Biomedical Software Engineering**, Introduction to Algorithms, **Machine Learning for Biomedical Data Science**, Rigor & Reproducibility, **UNIX/Linux Fundamentals**, **Scientific Programming in Python 3**

2019-2014

**Rutgers University - School of Engineering**
Bachelor's in Biomedical Engineering & Chinese (double major)
New Brunswick, NJ

## PROFESSIONAL EXPERIENCE

Present | March 2021

**Surgery Feedback/Biostatistics Data Analyst**
Memorial Sloan Kettering Cancer Center — New York, NY

- Completed R statistical projects for surgeons including data cleaning, variable derivations, data analysis, and report writing
- Developed Python package dcurves and created site for Decision Curve Analysis (DCA)
- Trained 2 interns and 3 surgical fellows in R and Amplio infrastructure

February 2022 | February 2021

**Bioinformatics Research Intern**
Sema4 — Stamford, CT

- Performed structural variant (SV) detection on over 100 BAM files, each exceeding 100GB, using tools such as Delly, SvABA and DRAGEN by Illumina
- Developed pipelines with Bash, Python, WDL, and AWS to automate SV detection and comparison across multiple algorithms
- Investigated repeat variants within 114 samples, leading to potential therapeutic approaches to diabetes
- Visualized data using various methods including Circos plots, stacked bar plots, heat maps, scatter plots, etc
- Consistently updated scripts and files on group GitHub repo to foster collaboration

June 2019 | September 2018

**Senior Design Project Lead**
Rutgers University - Cai Lab — New Brunswick, NJ

- Used RNA-seq pipeline for differential gene expression from multi-timepoint samples
- Developed algorithm to analyze time-series gene expression using Matlab/Linux through K-Means clustering
- Created MATLAB GUI to visualize time-series gene expression

*This resume was made with the R package **pagedown**.*

*Last updated May 2023*

**Inorganic Manufacturing Associate**
SPEX CertiPrep Group LLC Metuchen, NJ Present - May 2018

- Verified chemical standard concentrations for quality assurance, manufacturing, and packaging of inorganic standard through wet-lab techniques and analyses
- Programmed Hudson automated pipettor robot for serial dilutions & inorganic standard synthesis
- Automated crucible weight retrieval, weight averaging, and gravimetric calculations using Excel
- Organized company performance data in Excel using pivot tables and charts to support team leaders' decision-making

**Research Intern**
National Taiwan University - Chen Laboratory Taipei, Taiwan
August 2017

- Presented novel research ideas to explore mutagenic DNA SDP sites and investigated gene NR2B's neurological significance in Chinese
- Conducted RNA extraction, RT-PCR, TA Cloning, In Situ Hybridization to trace Lumbrokinase expression in A. Viride

**Research Assistant**
Princeton University Princeton, NJ September 2017 - May 2017

- Developed algorithms in MATLAB and Java to search mice genome to locate self-depurinating sequences in DNA
- Conducted an independent project to trace effects of self-depurination mechanism in genome sequences to determine its relevance to site-directed self-mutagenesis

**Quality Control Intern**
Tokyo Chemical Industry Co., Ltd Saitama, Japan July 2016 - June

- Worked in a team to complete 5 or more QA forms/specs daily
- Trained for 160 hours in instrumentation (GC, HPLC, NMR, IR) and wet-lab techniques (Appearance, Solubility, MP, Titration, etc)

## PUBLICATIONS

*Please see Google Scholar*

Pellegrino F, Tin AL, Martini A, Vertosick EA, Porwal SP, Stabile A, Gandaglia G, Eastham JA, Briganti A, Montorsi F, Vickers AJ. Prostate-specific Antigen Density Cutoff of 0.15 ng/ml/cc to Propose Prostate Biopsies to Patients with Negative Magnetic Resonance Imaging: Efficient Threshold or Legacy of the Past? Eur Urol Focus. 2023 Mar;9(2):291-297. doi: 10.1016/j.euf.2022.10.002. Epub 2022 Oct 19. PMID: 36270887.

Pellegrino F, Tin AL, Sjoberg DD, Benfante NE, Weber RC, Porwal SP, Briganti A, Montorsi F, Eastham JA, Laudone VP, Vickers AJ. The effect of the da Vinci® Vessel Sealer on robot-assisted laparoscopic prostatectomy complications. J Robot Surg. 2023 Apr 12. doi: 10.1007/s11701-023-01595-x. Epub ahead of print. PMID: 37043122.