Daphne Qin

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EDUCATION

Rice University - Houston, TX   *May 2027*

Bachelor of Arts in Neuroscience, Pre-Medical Track, GPA 4.0

- Teacher's Assistant for Calculus 2
- Relevant Coursework: Fundamentals of Neurosystems (ongoing), Organic Chemistry 1 (A), Biochemistry 1 (ongoing), Fundamentals of Computer Engineering (A+), Honors Linear Algebra (A), Honors Differential Equations (ongoing)

Stuyvesant High School - New York, NY   *Jun 2023*

Stuyvesant Diploma; GPA 95.75/100

- Relevant Coursework: AP Physics C Mechanics, AP Physics C Electricity & Magnetism, Multivariable Calculus, AP Chemistry, AP Biology, Advanced Computer Aided Design, Computer Graphics

RESEARCH EXPERIENCE

Baylor College of Medicine - Houston, TX

Research Assistant at Bijanki Lab, Department of Neurosurgery   *Jan 2024 - Present*

Quantify neuroimaging research relating paracingulate sulcus morphology to affective network connectivity under the supervision of Ms. Isabel Danstrom.

- Develop a novel semi-supervised machine learning algorithm using MRI imaging data and Python libraries to automatically characterize variable sulcal morphology surrounding the paracingulate sulcus.
- Analyze electrical stimulation data from epilepsy patients undergoing brain activity monitoring to determine cingulum bundle connectivity.

Memorial Sloan Kettering Cancer Center - New York, NY

Intern at Boire Lab, Human Oncology and Pathogenesis Program   *Jul 2022 - Aug 2022*

Conducted research on the effects of Id1 on leptomeningeal metastasis proliferation using cell culture and mouse models; supervised by Dr. Morgan Freret and Dr. Adrienne Boire (primary investigator).

- Reviewed literature to supplement ongoing research on Id1 behavior.
- Conducted in-vitro cell viability assays under hypoxic/normoxic conditions to study the behavior of Id1 in different environments.
- Prepared mouse brain slides for imaging to detect Id1 movement within the leptomeninges.
- Analyzed data using Graphpad to quantify the effects of Id1 proliferation under different environments.

RELEVANT ACTIVITIES

The Healthcare Navigator, American Medical Women's Association - Houston, TX

Associate Digital Engineer   *Jan 2023 - Present*

Design a website aiming to demystify the healthcare system for college students.

Rice Medical Design - Houston, TX

Simply-Spiro Team Contributor   *Aug 2023 - Present*

Design a PC-based spirometry device costing less than $125 for use in low-resource settings.
- Research pressure sensors to effectively measure flow rate.
- Select and program an Arduino board to display relative spirometry graph results.

Rice Data Science - Houston, TX

Data Education and Exploration Program (DEEP) Contributor   *Aug 2023 - Nov 2023*

Analyzed a public diabetes dataset in order to correlate different risk factors with positive diabetes diagnoses.
- Correlated BMI, HbA1c levels, and smoking with prevalence of diabetes using the Pandas, MatPlotLib, and Seaborn libraries for visualizations and models.
- Presented diabetes models and significance to a panel of over 50 students during the club-wide showcase; team won first place at the showcase.

Freshman AP (FRAP) Tutoring - New York, NY

President - Program Coordinator   *Jun 2022 - Aug 2023*

Represented FRAP Tutoring and collaborated with biology teachers and tutors to promote tutoring for all freshmen.
- Mentored and expanded administration team to allow for more specialization within admin roles.
- Collaborated with teachers to organize and teach during one-on-one and group review sessions.
- Validated over 300 official volunteer hours with school administration.
- Expanded FRAP to cover the Modern Biology curriculum, thus expanding tutoring to over 150 students total.
- Successfully tripled number of participating tutors, resulting in greater tutor availability and increased tutee satisfaction.

Co-founder & Administrator - Director of Marketing and Graphic Design   *Sep 2020 - Jun 2022*

Provided tutoring for all AP freshmen courses within Stuyvesant High School.
- Connected with AP Biology teachers to coordinate group review sessions attended by 60+ students each session.
- Designed flyers and logos to promote FRAP, as well as volunteer certificates to award official service hours.
- Leveraged school announcements to recruit tutors and tutees to grow FRAP.
- Managed volunteer hours and oversaw certificate distribution.

Yellowstone Ecology Project - Missoula, MT

Field Intern   *Jun 2021 - Jul 2021*

Conducted field work at Yellowstone National Park with a group of 15 students from across the country to contribute to conservation efforts.
- Conducted bison surveys to contribute to the national bison census.
- Collected bison samples to aid in bison research on migration and eating patterns.
- Gathered on-site data using bison and wolf telemetry, and bear surveys.

- Performed field work to help stop the spread of invasive species and protect the well-being of Yellowstone's native species.
- Earned an A for ENST 491 at the University of Montana, along with 35 hours of volunteer experience.

AACC Medical Shadowing Program - Virtual

Participant   *Dec 2020*

Shadowed a panel of doctors from Shandong First Medical University for 20 hours total.

- Researched and presented on the Pterional Craniotomy approach to a panel of neurosurgeons to widespread acclaim.

SKILLS

Computer Science

Languages: Java, Python 3 (MatPlotLib, Pandas, SQLite3, scipy, scikit-learn, Nilearn, NiBabel), Bash

Tools: Ubuntu Linux (WSL 2 shell), Git; Object-Oriented Programming

Design

Graphics: Adobe Express, Adobe Fresco, Canva, ibisPaint

Computer-Aided Design: Onshape

Laboratory

Bench: viability/apoptosis assays, hypoxia chambers, anesthesia chamber preparation, micropipetting

Analysis: Graphpad, Excel

Spoken Languages

English (native proficiency), Mandarin Chinese (conversational), Spanish (conversational)

ADDITIONAL EXPERIENCE

Stuyvesant/NYC Math Team - New York, NY   *Sep 2019 - Jun 2023*

Active Member

Participated in and was nominated for selective competitions such as NYSML (state level), ARML (national level) and HMMT (national level).

DMI Media & Technology Committee Leader   *Oct 2022 - Dec 2022*

Led a team of designers in preparation for school-hosted math competition.

- Coordinated a team of three designers in creating a T-shirt design and four sticker designs for school-hosted math competition.
- Arranged distribution of merchandise to 31 teams from across NYC.
- Supervised grading of competitions for four teams.

Schoolhouse.world - Virtual

Peer Tutor, Summer Camp Counselor   *Apr 2022 - Dec 2022*

Engaged in small group tutoring sessions with students globally; tutored SAT, high school math and Calculus, AP Biology and Spanish Language throughout the year, and Rubik's Cubing during the summer.

SAT Onboarding Lead   *Aug 2022 - Nov 2022*
Mentored 81 tutors in four cohorts, to prepare them to tutor for the November and December SATs.
   ● Inspired tutors to adopt an interactive and lighthearted teaching style.

PRESENTATIONS
Qin D., Freret M., Remsik J., Chi Y., Tong X., Boire A. "Leptomeningeal metastasis, Id1 and the hypoxia
      response". Memorial Sloan Kettering, New York, NY.

AWARDS & HONORS
President's Honor Roll   *Jan 2024*
Awarded to the top 30% of students by GPA per semester; earned a 4.0 GPA during my first semester at Rice for
this award.

Certificate for Excellence in Technology Education   *Jun 2023*
Annually awarded to three graduating Stuyvesant High School students for high honors in technology-related
education.

Thomas Richard and Julia Hadley Franklin Scholarship   *Apr 2023*
Annually awarded to incoming Rice students based on scholarly standing.

Schoolhouse.world Top Tutor   *Aug 2022*
Awarded to 20 June SAT Bootcamp tutors, out of 1,000 total.

New York State Mathematics League Competition   *Apr 2021*
Team placed 4th overall.

Stevens Institute of Technology Olympiad   *Jun 2020*
Placed 2nd in the 9th to 10th grade division.

MetroHacks Women NYC Hackathon - Third Place   *Apr 2019*
Team placed 3rd in the Health division for Safe Nap, an app and device coded in Android Studio (Java) that
tracks the sleeping patterns of babies.

MATHCON Nationals   *Apr 2019*
Was invited to finals, a feat earned by the top 1% of initial MathCON participants; earned an honorable
mention.