Mellon College of Science

Sample Resumes

Isabella Biology

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA — May 2023
Bachelor of Science in Biological Sciences, GPA: 3.6/4.0
Minor: Biomedical Engineering

EXPERIENCE

Clinical Research Intern, Atlantic Melanoma Center: Morristown Medical Center, Morristown, NJ — Jun – Aug 2021

- Investigated incidence of BRAF, NRAS, and C-Kit mutations in melanoma patients within the Atlantic Health System
- Conducted a retrospective chart review on 114 patients who underwent oncologic genetic testing
- Studied patient demographics leading to the possible development of certain genetic mutations
- Performed extensive literature review of medical articles pertaining to melanoma cases and genetic mutations
- Presented trends establishing the foundation of research and results of my study in a comprehensive article

Office Assistant, Mellon College of Science Dean's Office, Carnegie Mellon University — Aug 2019 – Mar 2020

- Facilitated operation of the office through administrative responsibilities and event coordination
- Managed 100 volunteers for MCS Pride Day; assigned positions and responsibilities to serve over 500 event attendees

LEADERSHIP

Board Member, NeuroSAC (Student Advisory Council), Carnegie Mellon University — Jan 2021 – Present

- Plan and organize Carnegie Mellon and community service events to increase camaraderie between Neuroscience majors while giving back to the Pittsburgh community

Secretary, Future Leaders of Science, Carnegie Mellon University — Sep 2020 – Present

- Maintain accurate and thorough written records of organization's proceedings; collaborate with team of five officers to organize community service and fundraising events

Social Chair, Spanish and Latin Student Association (SALSA), Carnegie Mellon University — Mar 2020 – May 2021

- Communicated virtually with members during COVID pandemic to foster community involvement and recruit new members while campus was closed

SKILLS

Research: Titrametric analysis, cell transformation, enzyme digestions, DNA ligation, DNA synthesis, primer design, SDS gel, spectroscopy, bacterial vector cloning, electroencephalogram subject running, polymerase chain reaction, high-pressure liquid chromatography, infrared spectroscopy, nuclear magnetic resonance

Computer: Excel, PowerPoint, Word, MiniTab, SPSS

Languages: Spanish (fluent)

EXTRACURRICULAR

Intramural Track Team, Member — Mar 2020 – Present
Alpha Phi Omega, Vice President of Community Outreach — Sep 2020 – May 2021
Biological Sciences Student Advisory Committee, Member — Sep 2019 – May 2020

CHRIS CHEMISTRY (they/them/theirs)

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA — May 2023
Bachelor of Science in Chemistry, Minor in Mathematical Sciences
Cumulative GPA: 3.88/4.0, Dean's List High Honors (Fall 2020, Spring 2021)

Relevant Coursework: Fundamentals of Programming & Computer Science, Modern Analytical Instrumentation, Professional Communication Skills in Chemistry, Molecular Design & Synthesis

RESEARCH EXPERIENCE

Chemistry Department, CMU — May 2021 – Present
Research Assistant; P.I. Dr. Alan Smyth
- Analyze the morphological and mechanical properties of polymers by atomic force microscopy
- Study electronic properties of nanoparticles by UV-Vis spectroscopy; analyze data using MATLAB and Mathematica

Chemistry Department, CMU — Aug 2020 – Present
Researcher; P.I. Dr. Stefanie Sydlik
- Design synthetic scaffolds that attach therapeutics to carbon nanotubes
- Observe delivery of the therapeutic to understand how it would release in the body; record results
- Analyze novel products and confirm the degree of functionalization
- Communicate new scientific techniques with the community via papers and publications
- Funded by NASA and a University grant to continue research in the summer

Drug Metabolism & Pharmacology Group, Cambridge MA — Jun 2019 – Aug 2019
Synthetic Chemistry Intern
- Carried out a new route to synthesize a drug of interest
- Performed analysis of reactions by HPLC and LC/MS, purification by column chromatography and preparatory HPLC, and characterization of new compounds by NMR spectroscopy
- Delivered a PowerPoint presentation to the DMP group of research directors at the end of the internship

OTHER EXPERIENCE

Academic Development, CMU, *Peer Tutor* — Oct 2020 – Present
- Lead weekly tutoring sessions for individual students; conduct walk-in tutoring sessions for larger groups as needed
- Tutor students in multiple courses including Modern Biology, Principles of Computing, Biochemistry, and Organic Chemistry

Eureka! First Year Seminar, Mellon College of Science, CMU, *Teaching Assistant* — Aug 2020 – May 2021
- Supported curriculum delivery of a first year seminar course designed to facilitate student success in college
- Worked with a faculty partner to plan and lead a weekly recitation section of fifteen students to reinforce key concepts

TECHNICAL SKILLS

Computer: Proficient in Python, Mathematica, LaTeX, MS Office; basic in Maple, MATLAB, Ruby, Ampac
Laboratory: Atomic force microscopy, IR, NMR, EPR, UV-Vis, atomic absorption, fluorescence spectroscopies, column chromatography, HPLC, preparatory HPLC, gas chromatography, gas chromatography-mass spectrometry, liquid chromatography-mass spectrometry, distillation, gel electrophoresis, polymerase chain reaction

ACTIVITIES

Murder Mystery Play, Department of Chemistry, CMU, Cast Member — Feb 2020
First-Year Mentor Program, Mellon College of Science, CMU, Peer Mentor — Aug 2019 – Dec 2019

AWARDS & HONORS

ACS Analytical Chemistry Division Award, CMU — May 2021
Warner Prize for Sophomores, Mellon College of Science, CMU — Apr 2020

MALIKA DEMATH

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA May 2022
Bachelor of Science, Computational Finance GPA: 3.8/4.0

Relevant Coursework: Mathematical Finance, Statistical Inference, Probability Modeling, Macroeconomics, Linear Algebra, Fundamentals of Programming, Data Structures and Algorithms, Differential Equations, Multivariable Calculus

EXPERIENCE

Quantitative Analyst, **Global Research** Jun - Aug 2021
Fortress Investment Group LLC, New York, NY

- Built a model in Python that traces the movement of exchange rates through global and local macro drivers and delivered a report to FX traders based on findings of the model
- Developed a database in Python that processes and classifies 200+ excel source files of daily Brazil inflation monitor to support prediction of monthly official release
- Recreated computations of Brazil core inflation measure by analyzing BCB publications and statistics papers
- Organized Brazil inflation data to facilitate mid-month and end-month reporting by restructuring the file and constructing macros in VBA excel to fully automate computations and updates

Summer Analyst, Data Science Team Jun - Aug 2020
BNY Mellon, Pittsburgh, PA

- Delivered proof of concept initiative to spearhead improvements in data handling best practices
- Devised real-time statistical models using raw data from Vertica to detect disruptions in database service
- Analyzed and logged the model's output to feed in to a database monitoring web app
- Developed Python script to help load market data into the FX trading technology group's database

Research Analyst, Department of Mathematical Sciences Jun 2019 - May 2020
Carnegie Mellon University, Pittsburgh, PA

- Conducted research on options pricing within incomplete trinomial models with Dr. William Hrusa
- Provided research support by conducting mathematical computation and financial analysis of the results
- Determined maximized expected utility, indifference price, and optimal order size with various utility functions

ACTIVITIES AND PROJECTS

Vice President, Black Latino Business Association Sep 2020 - Present

- Coordinate stock pitch competition to enhance effective relations with other organizations on campus
- Schedule alumni speaker panels on topics related to business and finance; coordinate networking events

Finalist, Center for Financial Innovation Case Competition Nov 2020

- Placed 3rd out of 20 teams at a university-wide case competition
- Presented a business strategy to help PNC grow their mobile banking applications

Designer, Fundamentals of Programming Final Term Project Dec 2019

- Designed and programmed an interactive version of Monopoly in a span of 3 weeks from scratch in Python
- Video demo: https://www.youtube.com/watch?v=D6xPfNvr234

Personal Trading Account 2017 - Present

- Invest money in the financial markets by constructing a portfolio of stocks and EFTs on commodities, US equity indices and volatility index based on personal views of the markets

SKILLS

Software: Python, MS Office, R, Matlab, Java, C
Languages: Native proficiency in English and Mandarin; Intermediate proficiency in French

FRANK PHYSICS

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA May 2022
Bachelor of Science in Physics, Minor in Mathematical Sciences
Major GPA: 3.6/4.0 Overall GPA: 3.2/4.0

Institute for the International Education of Students, La Plata, Argentina Fall 2019

Relevant Coursework: Thermal Physics, Introduction to Nuclear and Particle Physics, Linear Algebra, Nanoscience & Nanotechnology, Advanced Quantum Physics, Electronics, Physical Mechanics I &II, Independent Study (General Relativity)

EXPERIENCE

Senior Researcher, Physics Department, Carnegie Mellon University Jan 2021 - Present
- Operate and maintain mechanical, ion and cryo vacuum pumps; trained in ultra-high vacuum and vacuum deposition techniques
- Investigated properties of magnetic structures, using magnetic imaging (MFM), magnetometry (VSM), and synchrotron X-ray scattering techniques
- Collected magnetic images and magnetometry data to study magnetic ordering between nanoparticles and dynamics of magnetic fluctuations

Teaching Assistant, Mathematics Department, Carnegie Mellon University Spring 2020
- Led two calculus sections each week for sophomore class of 95 students
- Graded weekly problem sets and provided feedback; developed answer keys for tests
- Explained and clarified difficult concepts to students during weekly virtual office hours

Research Assistant, Physics Department, Carnegie Mellon University Summer 2019
- Built and modified a Duplex Cryostat as part of a 4-person research team
- Studied the effect of the filaments size on the count rate per X-ray beam window size
- Used X ray diffraction at low temperature to study Bragg Diffraction with respect to temperature

Research Intern, Geology Department, SUNY Purchase, Purchase, NY Summer 2018
- Mentored by Yuri Gorokhovich, PhD
- Analyzed data reflecting the changes in rock and water levels obtained from GPS satellites
- Investigated the physical properties from the data and displayed results in OpenDx

TECHNICAL SKILLS

Software: Matlab, Gnuplot, Mathematica, LaTeX, IBM 3-D OpenDx Visualization, Eclipse
Operating Systems: Linux, Windows 95/98/2000/XP, Mac OSX, Unix, TinyOS
Computer Languages: Java, C++, C, Perl, MySQL, Fortran

ACTIVITIES

President, Society of Physics Students May 2021 - Present
Mellon College of Science Physics Student Advisory Council Aug 2020 - Present
Intramural Soccer Club Aug 2019 - Present