Jonathan Mares

Aspiring Biomedical Engineer

contact

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languages

English: mother tongue
Russian & Hebrew:
fluency

programming

Java, Python, Ocaml,
C, Objective C,
Matlab, HTML, CSS

objective

My professional goals are to use my problem solving skills to improve the quality of human life.

education

2011–2015	**Bachelor** in Chemical and Biomolecular Engineering Pursuing Minors in Music and Computer Science	Cornell University, Ithaca, NY
2014	**Certifications** Introduction to Data Science	Coursera

experience

2014 — Novartis Vaccines — Holly Springs, North Carolina
Technical Development Intern
- Supported development to define a pilot scale oil-in-water emulsion process
- Participated in experimental planning, execution, data compilation, and presentations
- Supported analytical characterization (HPLC, particle sizing) of emulsion

2013 — IPS- Integrated Project Services — Somerset, NJ
Engineering Intern
- Assisted Commissioning and Project Delivery teams at the Integra Life-Sciences Manufacturing job site
- Aided Engineering Design team with AutoCAD drawings and process flow calculations

2011-2012 — Hi-Tech Pharmacal — Amityville, NY
Validation and Technical Services Intern
- Conducted surface area calculations of process equipment (kettles, tanks, agitators, pumps, etc.)
- Calculated product transfer line and filler machine volumes and Initiated protocol to optimize the filling process of products

research experience

2013-2014 — Putnam Lab Group — Cornell University, Ithaca, NY
Undergraduate Researcher
- Assisted with project: Reversibly Reactive Hydrogels for the Local Release of Protein Therapeutics
- Conducted UV/Vis Spectroscopy, hydrogel degradation, protein release, and swelling analysis,

2009-2010 — Renal Research Institute — NY Medical College, Valhalla, NY
Research Assistant
- Assisted with laboratory procedures such as Western Blotting, capillary analysis, and stem cell culture
- Work resulted in two peer review publications

coursework

Chemical Engineering: Chemical Process Design (Spring 2015) Unit Operations Laboratory | Fluid Mechanics | Heat and Mass Transfer | Chemical Engineering (ChE) Thermodynamics | ChE Kinetics | Analysis of Separation Processes | Process Dynamics and Control Theory | Honors Physical Chemistry I & II | Organic Chemistry Lab | Physical Chemistry Lab
Biomedical Engineering: Introduction to Biomedical Engineering (BiomE) | Molecular Principles of BiomE | Cellular Principles of BiomE (Spring 2015)
Computer Science Java Programming and Data Structures | Computer System Organization and Programming | Data Structures and Functional Programming | Discrete Structures | Networks | Introduction to Matlab | Introduction to iOS Development
Music: Jazz Improvization I & II | Music Theory I

activities and interests

Organizations: Cornell Univeristy Jazz Ensemble | Kappa Sigma National Fraternity
Music: composition, classical and jazz | piano, trumpet, saxophone, drums, vibes, trombone | performance groups
Other: volleyball | soccer | motorcycles/bicycles | watersports | standup comedy

publications

- Yasuda, K., Vasko, R., Hayek, P., Ratliff, B., Bicer, H., & Mares, J. et al. (2011). Functional consequences of inhibiting exocytosis of Weibel-Palade bodies in acute renal ischemia. AJP: Renal Physiology, 302(6), F713-F721. doi:10.1152/ajprenal.00541.2011

- Ratliff, B., Ghaly, T., Brudnicki, P., Yasuda, K., Rajdev, M., & Bank, M. et al. (2010). Endothelial progenitors encapsulated in bioartificial niches are insulated from systemic cytotoxicity and are angiogenesis competent. AJP: Renal Physiology, 299(1), F178-F186. doi:10.1152/ajprenal.00102.2010