

# Jonathan Mares

## contact

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## languages

English: native  
Russian & Hebrew:  
fluency

## programming

Java | Python | Ocaml  
| C | Objective C |  
Matlab | HTML

## objective

An entry-level position in Biomedical Engineering that will utilize my problem solving skills.

## education

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

## work 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 | Music Theory | Survey of Western Music II

## activities and interests

**Organizations:** Cornell University 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