Kumar Thurimella

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Education

University of Cambridge — Cambridge, UK
Ph.D. in Biotechnology | Statistics, Advisors: Roisin Owens (CEB), Sergio Bacallado (Stats Lab) — Oct 2020–Current

University of Colorado, School of Medicine — Denver, CO
M.D. Candidate, Advisor: Cathy Lozupone — Aug 2018–Current

University of Cambridge — Cambridge, UK
M.Phil. in Computational Biology (Biological Sciences), Advisor: Gosia Trynka — Oct 2017–Aug 2018

- Thesis: "Evaluating the Efficacy of Epigenetic Imputation in CD4+ Regulatory T Cells"

University of Colorado, Boulder — Boulder, CO
B.S. in Applied Mathematics, *Magna Cum Laude*, Advisor: Rob Knight — Aug 2009–Aug 2013

- Thesis: "Using Rule Induction to Elucidate Co-Occurrence Patterns in Microbial Data"

Experience

Uber Technologies — San Francisco, CA
Software Engineer II — Mar 2015–Aug 2017

- Using a heuristic recursive backtracking algorithm, built an auto-scheduler to schedule all incoming candidates for Uber, that sits atop our own custom Applicant Tracking System
- Python, Flask, Tornado, React.js

ThoughtWorks — San Francisco, CA
Junior Software Developer — Apr 2014–Mar 2015

- Developed software as a consultant, building and maintaining web applications for clients
- Java, Spring

Research Experience

Cathy Lozupone Lab - University of Colorado School of Medicine — Denver, CO
Research Track Medical Student — Sep 2018–Oct 2020

- Developed software to integrate metabolomics data with microbiome data to predict the origin of metabolites (from the host of microbes)

Gosia Trynka Lab - Wellcome Sanger Institute — Cambridge, UK
MPhil Research Student — Sep 2017–Aug 2018

- Developed software to examine and benchmark epigenetic imputation for rare immune cell types (Tregs)

Rob Knight Lab - University of Colorado Boulder — Boulder, CO
Undergraduate Research Student — Aug 2012–Aug 2013

- Developed software to examine and ultimately tease out co-occurrence patterns within microbial data. Focused on a data mining technique, known as association rule mining, to mine higher dimension co-occurrences

Publications

[1] **M. Shaffer**, **K. Thurimella**, and C. A. Lozupone, "SCNIC: Sparse Correlation Network Investigation for Compositional Data", Cold Spring Harbor Laboratory, Nov. 2020. eprint: https://www.biorxiv.org/content/early/2020/11/16/2020.11.13.380733.full.pdf, *Joint first authors with equal contributions.*

[2] M. Shaffer, **K. Thurimella**, K. Quinn, K. Doenges, X. Zhang, S. Bokatzian, N. Reisdorph, and C. A. Lozupone, "Amon: Annotation of metabolite origins via networks to integrate microbiome and metabolome data", *BMC bioinformatics*, vol. 20, no. 1, pp. 1–11, 2019.

Presentations

- Kumar Thurimella, Michael Shaffer PhD, Cathy Lozupone PhD, Employing Metabolomics and Microbiome Data to Build Algorithm for Interrogating Host-Microbe Interactions (Oral), National MD/PhD Conference 2020
- Kumar Thurimella, Michael Shaffer PhD, Cathy Lozupone PhD, Employing Metabolomics and Microbiome Data to Build Algorithm for Interrogating Host-Microbe Interactions (Oral), Western Medical Research Conference, Carmel, CA 2020
- Kumar Thurimella, Lara Bossini-Castillo PhD, Gosia Trynka PhD, Using ChromImpute to Recover Lost Epigenetic Signal in Rare Immune Cells (Oral), Sanger Institute Research Forum, Hinxton, UK 2018
- Kumar Thurimella, Fang Liu PhD, Applying a Recursive Backtracking Heuristic to Solve Scheduling Problems (Oral) Uber Technology Talk, San Francisco, CA 2017
- K. Kumar Thurimella, Jose Clemente PhD, Rob Knight PhD, Rule Induction: Classification of the Microbiome (Oral), Norlin Scholars Conference, Boulder, CO 2013

Scholarships and Awards

- Gates Cambridge Scholarship (£48,313/year) 2020–2024
  - Combining Maths and Medicine
  - CU Medical Student Wins $250,000 Scholarship
  - Kumar Thurimella Awarded Gates-Cambridge Scholarship | Applied Mathematics
  - Gates Cambridge Class of 2020
- Dr. Henry Christian Award, American Federation for Medical Research - Most Outstanding Abstract 2019
- Cambridge University Entrepreneurs Competition Finalist 2018
- Wellcome Trust Departmental Award Full Scholarship, University of Cambridge (£39,029/year) 2017
- Norlin Scholars Scholarship ($4,000/year) 2011–2013
- Engineering Merit Scholarship ($2,000/year) 2009–2013
- National Institute of Standards and Technology (NIST) Prep Scholarship (Full Tuition + Stipend) 2010–2011