Rishab Nayak

Curriculum Vitae

Personal Details

Name	Rishab Nayak
Current	Undergraduate, Boston University
Phone	+1 (857) 364-1410
Email	rishab@bu.edu
Weblink	rishabnayak.me
Citizenship	Indian / IN

Education

2017 – Present ***Bachelor of Arts in Biochemistry, Minor: Computer Science***

Boston University College of Arts and Sciences, Boston, MA 02215

- Expected Grad. May 2021 | GPA - 3.36 | Dean's List Spring 2018
- Reinhard Lab – Developed methods to synthesize nano & biosensors
- Caradonna Lab - Understanding metalloprotein enzyme action

Experience

Aug 2018 to Present ***Student Ambassador***

Wolfram Research

- Teaching and inspiring 100+ students to learn and use Wolfram's Technology and Wolfram Language
- Hosting tech talks, workshops, collaborations
- Building professional relationships with senior employees at the company
- Mentoring at HackMIT and YHack, helping 10-15 teams build apps deployed using the Wolfram Stack
- Analyzing the Performance of multiple Neural Networks to Identify Plugs and Connectors from an Image (Database Curation, Network Design and Training), with up to 92% accuracy on a dataset of 60k images

Jun 2017 to Present ***Core Technology Developer***

Prantae Solutions

- Probing new directions to push development, designing technology solutions for current ventures
- Developing a modern app based cross-platform diagnostic device making use of microfluidic chips to measure kidney health, bringing better testing to rural areas
- Researching a gold nanoparticle biosensor to quantitatively measure the μRNA biomarker for preeclampsia by way of PRET, bringing its detection timeframe down to 3 weeks
- Building a website for the Incubator of this company, attracting 1000+ potential startups; 100,000+ visitors

Sep 2017 to Present ***Information Technology Specialist***

BU IT Help Center

- Providing technical assistance on multiple BU Services including Authentication, E-Learning, Print and Enterprise WiFi
- Creating and managing tickets on a ticketing system, performing customer service over the phone and in-person
- Supporting 30k+ students, faculty and staff

Apr 2016 to May 2016 ***Intern/Project Trainee***

Stempeutics Research Pvt. Ltd.

- Prepared for future research work by isolating, growing, counting, preserving, and analyzing stem cell populations
- Analyed cell populations using flow cytometry, PCR, and gel electrophoresis of active gene products
- Induced cell differentiation, ran senescence assays, performed immunohistochemistry, and cDNA synthesis

Co-Curriculars

- Hackathon Wins - HackHarvard | HackNYU | BostonHacks | HackUMass | WHACK
- Electronic Keyboard - Grade 5, Trinity College of Music, London | Black Belt 1st Dan, World Karate Federation
- Green Ambassador - Schnieder Electric | Volunteer - Movement for Civic Awareness | Workshop Facilitator - Bhav.AT

Notable Projects

- **ProFIoU** - Using microfluidic chips to measure urine albumin for kidney health, to bring better testing to rural areas
- **PreEC** - Production of nanoparticle-based biosensors for quantification of preeclampsia's biomarker by way of PRET
- **Stepify** - Making the Elderly/Disabled independent with intelligent scene detection and safety capabilities
- **PlugID** - A Performance Analysis of Neural Networks to Identify Plugs and Connectors from an Image
- **Ava** - Voice activated technology to enable better access to medical assistance
- **pHarmr** - An automated, remotely controllable IoT hydroponics system for open source farming
- **FridgeKit** - A Conversion Kit to Make Any Fridge a Smart Fridge
- **AutoHome** - A home automation solution to convert any home into a connected and smart home
- **Pill Dispenser** - Built a low-cost internet-enabled pill dispenser for elderly to keep track of medication easily
- Computational compound screening having specific binding to DNA-RNA hybrids with Chimera and AutoDock
- Study of the Rate of Aquation of trans-Dichlorobis(ethylenediamine)cobalt(III) chloride
- Esterifying Free Fatty Acids and Phospholipids in Algal Oil to Increase the Yield of BioDiesel from Feedstock

Skills

Lab Skills	Calibration of glassware/transfer pipettes, sample preparation (digestion, dehydration), lab safety procedures, solution preparation, calorimetry, titration, inorganic synthesis, freezing point depression
Instrumentation	Molecular spectroscopy (UV-Vis), atomic spectroscopy FAAS, MP-AES, LCMS, GCMS), IR spectroscopy, flow cytometry, PCR, gel electrophoresis, NMR
Programming	Wolfram Language, MATLAB, C, C++, Java, Python, PHP, Swift, LaTeX, Full Stack development with Firebase, Webpack, Vue and Node.JS
Applications	Linux, Molecular Dynamics Software, Microsoft Office Suite, Data Analysis Software
Web	HTML, CSS, JavaScript, and Related Web Technologies.
Writing	Scientific Writing Proficiency
Other	Black belt (1st Dan), Electronic Keyboard (Grade 5, Trinity College of Music)

Languages

Native	***English***
Fluent	***Hindi, Oriya***
Basic	***Sanskrit***

References

Academic

Prof. John Caradonna
Associate Professor, Department of Chemistry, Boston University
people.bu.edu/caradonn/

Professional

Prof. Aseem Mishra
CEO, Prantae Solutions Limited

Prof. Kyle Keane
Lecturer at MIT