

SARAYU KAMATH

Aspiring Computational Biologist | Biotechnology | Biomedical Research & AI

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EDUCATION

Benenden School, UK — International A-Levels & IGCSE, Class of 2027

- IGCSE: 9 in Mathematics, Chemistry, Biology, Physics, French, Classical Civilisations, Geography, English Literature; 8 in English Language, Further Mathematics
- Predicted A-Levels: A* Biology, A* Mathematics, A Chemistry
- SAT: 1550 (Math 790, Sep 2026; Reading & Writing 760, Dec 2025)
- AP: English Language 5 (May 2026)

RESEARCH EXPERIENCE

Research Associate & Patent Lead, Patomic Labs | Grades 10–11

- Developed an AI/ML-powered menopause symptom-tracking device that integrates socio-contextual data to address urban-centric bias in wearable technology and give personalised feedback to improve lifestyle and pain management for rural women
- Pitched the innovation for a Duke University community grant
- Filed patent application No. 202641031093, “A Method and System for Personalized Menopause Care” (Biomedical Engineering); published in the Indian Patent Journal on 27 March 2026; examination requested; status: application in hearing

Independent Researcher, Transcriptomics, SHRM Biotechnologies | Grades 10–12

- Analysed gene-expression patterns associated with menopausal pain using bioinformatics tools and investigated potential therapeutic targets
- Published the findings in the International Journal of Innovative Research in Technology (IJIRT):[Link 1](#) and [Link 2](#)

Biomedical Engineering Research, Supros | Grade 11

- Analysed kidney scans and designed gene-analysis primers using computational tools
- Evaluated drug efficacy for autosomal dominant polycystic kidney disease (ADPKD) under the guidance of a Novo Nordisk engineer

INTERNSHIP

Biotechnology Intern, Multiplex Agritech Company | Grade 10, 3 weeks

- Investigated the effectiveness of *Pseudomonas fluorescens* against plant pathogens to explore its potential in biological pesticide development
- Conducted bacterial assays and presented a laboratory report to the R&D Director (available on request)

COMPUTATIONAL BIOLOGY & TECHNICAL PROJECTS

Carnegie Mellon University Pre-College Computational Biology Program | Grade 11, Jun–Jul 2026

- Conducted metagenomic analysis of soil samples and developed robotic solutions to improve laboratory efficiency
- Trained machine-learning models, including random forest and SVM, to explore early prediction of Alzheimer’s disease
- Assisted a neuroscience undergraduate TA with EEG data processing for his independent research

Healthcare Application Development, BetterMind Labs | Grade 12

- Built and deployed a health application using peer-reviewed databases to support genetic disease education, with a pilot on G6PD deficiency; includes educational modules, a scanning feature and a reaction journal (g6pd-phi.vercel.app)

AI & Medical Imaging, Inspirit AI | Grade 10, July 2025

- Learned Python and machine-learning fundamentals; developed a pneumonia-detection model from lung scans using Pandas, refining performance through iterative testing

Computer Science & Programming, Code in Place, Stanford University | Grade 11, April–May 2026

- Developed Python programming and computational problem-solving skills (algorithms, control flow, graphics, data handling) with guidance from a global mentor; explored AI-assisted coding

BIOMEDICAL INNOVATION & GRANT PROPOSALS

Community Mini-Grant Proposal, “Project Sahara”, Duke University Pratt School of Engineering | Grade 11, January 2026

- Developed a proposal for a context-aware menopause-tracking system using computational modelling and localised health data
- Designed a framework addressing women’s healthcare gaps, particularly in rural India, by zoning the country according to climate, diet and lifestyle

LEADERSHIP & ENTREPRENEURSHIP

Chief Executive Officer, Benenden School Enterprise Challenge | Grade 11 (*Team of eight, Finalist*)

- Led an eight-member team managing funding, suppliers and sales for a student-run bakery; developed the business plan, organised sales and charity events, and generated \$800 in profit

Sustainable Business Development, Benenden School Business Challenge | Grade 9, 2024

- Designed a sustainable food-delivery platform for underserved rural communities; developed the business case and presented a scalable solution to competition judges

Careers Ambassador, Benenden School Counselling Department | Grade 10, 2024–25

- Coordinated STEM, Classics and Careers conventions and guest-speaker sessions; introduced speakers at assemblies and guided students on academic and career pathways using Unifrog

COMMUNITY SERVICE & SOCIAL IMPACT

Founder, Project Mythri | Grades 11–12

- Led 10 awareness sessions reaching 700+ people and distributed 500+ care bags to promote perimenopause awareness among women aged 45 and above
- Partnered with a doctor and raised \$4,000 to support community outreach and reduce stigma surrounding perimenopause

Charity Representative, National AIDS Trust, UK | Grade 11

- Organised HIV-awareness fundraisers, including a dress-down day, doughnut sale and food stall, raising £600+ and engaging more than 500 students and staff

Volunteer Tutor, School-Partnered Primary School Support Program | Grade 11, 2025

- Taught reading, writing, vocabulary and art to primary school students, adapting to different ages and needs; introduced Scratch programming

Peer Mentor & Biology Tutor, Academic Peer Support Program | Grade 11, 2025–26

- Mentored two students preparing for board examinations with individualised lesson plans, mind maps and targeted practice; tracked progress and gave feedback

STEM COMMUNICATIONS & PUBLICATIONS

STEM Communications Lead & Magazine/Newsletter Lead, Benenden School STEM Society | Grades 9–12

- Member for three years (Grades 9–11), then STEM Leader in Grade 12
- Produced an annual STEM magazine and monthly newsletters communicating scientific developments; coordinated guest speakers and supported STEM conventions

HONORS & AWARDS

- Honorary Academic Scholarship (Grades 11–12); academic awards in French and Classical Civilisations (2024–25)
- Gold Award, Thailand International Mathematical Olympiad (TIMO), Grade 11, December 2025
- Distinction, RACI Chemistry Quiz (international), Grade 11, March 2026
- UKMT Maths Challenges: Bronze Award, Senior (2025); Silver Award, Intermediate (2024)
- Equestrian Federation of India National Championship: gold medals in individual and team events and a bronze medal in an individual event (2022, 2024, 2025)
- Equestrian Premier League: seven gold, seven silver and five bronze medals across show jumping and dressage; Best Rider Award from Olympic athlete John Steels (2020–2026)
- Duke of Edinburgh's Award, Silver: horse riding, piano and service, plus two expeditions

SKILLS, LANGUAGES & INTERESTS

- **Programming & AI:** Python, Pandas, machine learning, computational modelling, health-application and AI/ML model development
- **Computational biology:** metagenomic analysis, transcriptomics, gene-expression analysis, primer design, STRING, Cytoscape, KEGG, GEO2R
- **Biomedical research & communication:** molecular biology techniques, bacterial assays, medical-image analysis, scientific writing, newsletter and magazine production
- **Languages:** English (fluent); Hindi, Kannada, Konkani (intermediate); French (beginner)
- **Sports & music:** Skiing (Level 5 Certificate), Squash, Basketball; ABRSM Piano Grades 3 and 4 with Distinction (146/150 at Grade 4), working toward Grade 7
- **Interests:** computational biology, women's health research, biotechnology, biomedical engineering, AI in healthcare, scientific communication