Gavin A. Rolls

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Education

University College London – London, England   September 2023 – September 2024
- Master of Science in Urban Spatial Science at The Bartlett Faculty of the Built Environment

Georgia Institute of Technology – Atlanta, Georgia   August 2019 - May 2023
- Bachelor of Science in Computer Science – Concentrations in People and Information Internetworks
- Stamps President's Scholar – Georgia Tech's premier full-ride merit scholarship. 40 selected from 20,000 applicants. Selected based on the pillars of scholarship, leadership, progress, and service.
- Cumulative GPA: 3.91 (First-Class Honours Equivalent), Major GPA: 4.00

Work Experience

Georgia Tech Japan Summer Program in Sustainable Development – Kobe, Japan   May 2023
Assistant Lecturer
- Delivered lectures for *INTA 3232 – Smart & Sustainable Megaregion*, to 25 students from Georgia Tech at Kobe University
- Created lecture material to teach the fundamentals of geospatial analysis and conducted GIS exercises to apply taught skills

Sustainable Megaregions Research Project – Atlanta, Georgia   February 2021 - May 2023
Undergraduate Research Assistant
- Delineated boundaries of established and emerging megaregions using NASA VIIRS and DMSP datasets in Google Earth Engine
- Designed and coded a data-first megaregions delineation tool with Earth Engine. Used the approach to perform a global search
- Analyzed and aggregated 400+ papers as part of a comprehensive literature review of megaregion literature

MessageGears – Atlanta, Georgia   May 2022 – August 2022
Software Engineering Intern
- Worked as a full stack developer on MessageGears' email marketing web app
- Created and implemented novel user interface elements using TypeScript and Angular
- Improved application interface with SQL backend using REST API calls
- Wrote unit tests, view tests, and Cypress tests to improve testing coverage across the testing stack

Projects

Paul Easton Basketball   May 2020 – August 2020
Frontend Developer
- Used React Native to design a mobile application (iOS and Android) for Basketball trainers to upload and review player's footage
- Created application structure using React Navigation and implemented UI/UX design and user authentication
- Implemented principles of Agile Development as Scrum master to a team of six. Used Jira to streamline workflow

Chess Engine   May 2021 – July 2021
- Created a chess engine and game visualization with Java. Selected moves with an alpha-beta pruning minimax search algorithm

Publications

- Co-Author: *The Megaregion – Forms, Functions, and Potential? A Literature Review and Proposal for Advancing Research*. International Journal of Urban Sciences, 2023. https://doi.org/10.1080/12265934.2023.2189156

Skills

Languages, Environments, & Software
- Practical work experience with Java, QGIS, Google Earth Engine, JavaScript, Typescript, Angular, SQL, Cypress
- Intermediate experience with C, C++, React Native, MATLAB

Development Tools
- Practical work experience with IntelliJ Jira, Confluence, Bitbucket, Agile Development, Jenkins, GitHub, and Git

Leadership

Georgia Tech Tour Guide   January 2021 – May 2023
- Assisted prospective students and families in their college process by providing campus tours as an ambassador to the Institute
- Fall 2022 Tour Guide of the semester – selected to model tour procedure to new guides

Georgia Tech Student Government – Transportation and Infrastructure Committee   August 2020 – May 2023
- Advanced student interests in transportation by lobbying for improved bus service and cycling accessibility on campus

Special Topics Teaching Leader   August 2021 – December 2021
- Assistant instructor for GT 1801, an orientation course for first year President's Scholars at Georgia Tech