CV of Gavin Burke

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Education

B.S., Logic and Computation, Carnegie Mellon University, 2020–24

> *Coursework*: Theoretical Computer Science; Foundations of Programming Languages; Undecidability & Incompleteness; Functional Programming; Formal Logic; Modal Logic; Imperative Computation; Matrices and Linear Transformations; AI and Society; Concepts of Mathematics; Computer Systems; Logic and Proofs; Nature of Reason; planned for next semester: Distributed Systems, Parallel and Sequential Data Structures and Algorithms, Electrical and Computer Engineering, Senior Thesis; more.

In my Logic and Computation major, I am planning two concentrations: (1) Artificial Intelligence and Cognitive Science, and (2) Computer Science. Coursework from these two concentrations together provide a foundational perspective on computation, artificial intelligence, and a variety of other disciplines.

Co-curricular involvement and achievements

Carnegie Mellon Mortar Board Society member. Only students with a cumulative Quality Point Average in the top 30% of Carnegie Mellon's rising-senior class are invited to apply for membership. As a member of this organization, I am working throughout my senior year to welcome newcomers at CMU, lead charitable fundraisers, and broadly serve the greater community.

Phi Beta Kappa qualifier, Carnegie Mellon University. Rising seniors of Carnegie Mellon with a sufficiently high cumulative Quality Point Average qualify for membership in its Phi Beta Kappa chapter. Invitations are directed in the spring.

Textbook editor. I have assisted a CMU professor in revising and augmenting a draft of a textbook, to be published by Cambridge University Press, that introduces classical and modal logics, writing over ten pages of suggested improvements.

Surfrider Foundation Core Volunteer. After completing Core Volunteer training, I have participated in various clean-up and water-testing activities in areas prone to environmental harm, including bioassessment testing.

Move-in and food-drive volunteer. On campus at CMU, I have volunteered

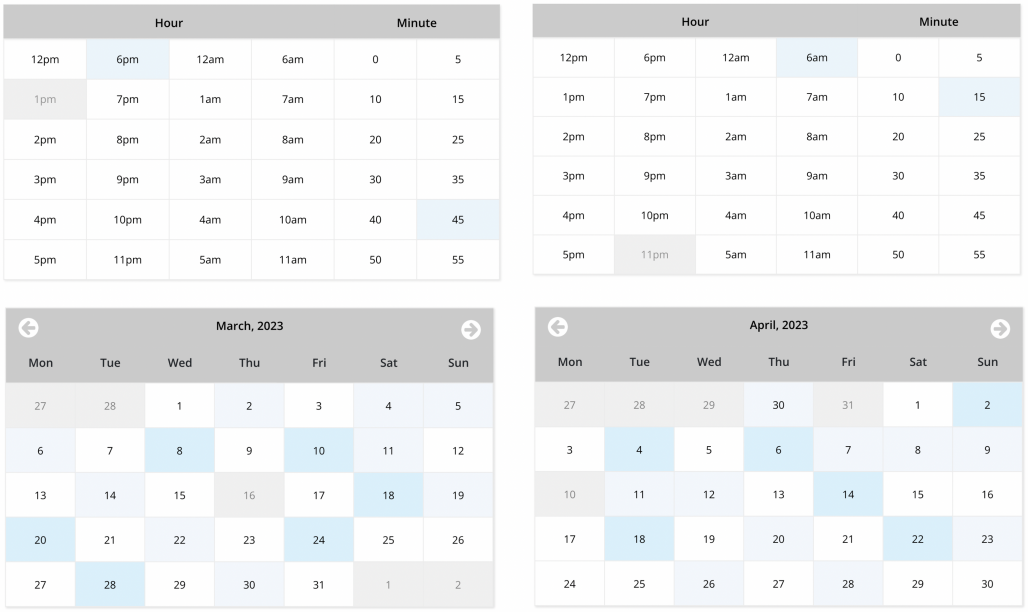
to help freshmen move in and transition to college life, and lead fellow volunteers in performing their duties; off campus, I have volunteered in food drives that support various communities, leading coordination efforts.

Summer intern, Arcus Biosciences. I worked under the Vice President of Drug Discovery in the Chemistry and Drug Metabolism and Pharmacokinetics departments, assisting scientists in a biomedical research setting.

Dean's List with High Honors, Carnegie Mellon University

Projects

I have worked on the development of temporal information systems software, an area I am pioneering. This work has been supported by Carnegie Mellon's Project Olympus, which awarded my projects $25k in credits for Amazon Web Services. Below are names and brief descriptions of two of the projects, of which I am the sole inventor on and author of corresponding pending patents.



i: Temporal Information Systems

> *Temporal information is traversed and manipulated in response to user input and the advancement of time.*

ii: Dynamically Partitioning and Superseding Documents

> *A memory includes a* DocumentPartitioningModule *with instructions executed by a processor to dynamically partition and supersede a plurality of subspaces nested in a document.*