Nick Kisel

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Second-year UC Berkeley CS student, tutor, and media producer prepared to build large projects, learn about new technologies, and synergistically work with other developers on a software development team.

Skills

Python, Java, C, Scheme, HTML, CSS, JavaScript, SQL, MongoDB, Node, Express.
Experience using Git, Unix commands, writing unit & integration tests, using debuggers.

Education

University of California, Berkeley (GPA: 3.78)   BA, Computer Science (In Progress)
August 2018 - Present   Expected Graduation: Spring 2022

Relevant Coursework
Data Structures, Machine Architecture, Structure & Interpretation of Computer Programs, Designing Information Devices and Systems, Discrete Mathematics, Probability Theory, Principles & Techniques of Data Science, Adaptive Teaching Methods in CS; *in progress: Algorithms, Databases*.

Projects   **(class projects private; see https://nkisel.github.io/web/)**

Gitlet   (Java)   nkisel.github.io/web/projects.html
- *Add, remove, commit, push, fetch, and pull different versions of files just like with Git.*
- *Files are uniquely identified by SHA-1 hashing and serialized in a hidden directory.*

Tablut   (Java, HTML)   nkisel.github.io/web/projects.html
- *Norse attack-and-defense board game, complete with AI for solo play & GUI for two-player games.*
- *AI follows the minimax algorithm with alpha-beta pruning for fast & intelligent decision-making.*

Mandelbrot Fractal Viewer   (C)   github.com/61c-student/fa19-proj1-nkisel
- *Generates a video of a linear zoom between two magnifications of the Mandelbrot set.*
- *Calculates the number of Mandelbrot iterations for a grid of points and maps each point to a color.*
- *Customizable to arbitrary resolution, video length, color, and zoom level.*

Enigma Machine   (Java)   nkisel.github.io/web/projects.html
- *Expands the capabilities of the World War II era message encryption device with a rotating cipher.*
- *Sets up a machine with any alphabet, any number and order of user-defined rotors, and (en/de)codes!*

Scheme Interpreter   (Python, Scheme)   github.com/nkisel/61A/tree/master/scheme
- *Python application that directly mimics Scheme specification and behavior*
- *Converts syntax such as operators and special forms into tokens, representing them as Python objects*
- *Implemented tail-call optimization, improving memory use and recursion capabilities*

Ants   (Python)   github.com/nkisel/61A/tree/master/ants
- *Browser-compatible iteration of hit strategy game "Plants vs. Zombies"*
- *Objects & inheritance distinguish ants of similar characteristics with minimal repetition.*

Audio Recording and Analysis   (Python)   github.com/nkisel/loudness-extractor
- *Python application capable of recording & analyzing audio to determine average amplitude.*
- *Implemented menus, input sanitization, and file I/O to promote highly customizable output.*
- *Extensions include volume auto-ducking, automated music selection, video clip capture.*

Interests

Videos: filming, editing, graphic design, branding for documentaries & interviews hosted online.
                    Adobe Photoshop, Illustrator, Premiere, After Effects; Sony Vegas; Audacity; Blender
Music: Composition and production of electronic, rock, hip-hop soundtracks.
                    FL Studio & Ableton Live, familiarity with recording techniques, equipment, and formats.