Nick Kisel

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Third-year UC Berkeley CS student, tutor, and media producer prepared to write and improve large projects, learn about new technologies, and synergize with other developers on a software development team.

Education

University of California, Berkeley (GPA: 3.82) *August 2018 - May 2022*
Bachelor of Arts, Computer Science *Berkeley, California*

Data Structures, Algorithms, Machine Architecture, Operating Systems, Software Engineering, Security, Databases.
Designing Information Devices and Systems, Discrete Mathematics & Probability Theory.
Principles & Techniques of Data Science, Adaptive Teaching Methods in Computer Science.

Experience

Snackpass (Node, React) *August 2020 - January 2021*
Software Engineer Intern *San Francisco, California*

Aruba Networks (C, Jenkins) *May 2020 - August 2020*
Embedded Software Engineer Intern *Roseville, California*

Designed efficient logging infrastructure for debugging customers' external storage issues on network switches.
Merged efficiency and stability improvements e.g. conserving memory by caching downloaded ASIC images.
Remotely interacted with physical, on-site hardware by reserving machines and installing new builds via shell.

Projects

(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.*

Skills

Python, Java, C, Scheme, HTML, CSS, JavaScript, Node, React, PostgreSQL, MongoDB.
Experience using Git, Jenkins, Unix commands, writing unit & integration tests, debugging.