

# Ethan Williams

ethan.williams@brown.edu    <https://ethan.ws>    (818) 424-3258    69 Brown Street, Box #9381, Providence RI 02912

## Education

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<b>Brown University</b>	GPA: 4.0	Providence	<b>Sep 2021–May 2025</b>
<i>Pursuing:</i> Bachelor of Science in Applied Mathematics-Computer Science			
<i>Coursework:</i> Accelerated Intro to Comp Sci (data structures, algorithms), Computer Systems, Computer Vision			
<b>Los Angeles Pierce College</b>	Concurrent With Senior Year	Woodland Hills	<b>Aug 2020–Jun 2021</b>
<i>Coursework:</i> Multivariable Calculus, Discrete Structures, Linear Algebra, Probability and Statistics			

## Projects

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<b><u>Color Me This</u></b>	TensorFlow, Python	Providence	<b>Apr 2023–May 2023</b>
<ul style="list-style-type: none"><li>• Developed fully convolutional model to colorize grayscale images with user-provided color hints</li><li>• Wrangled a synthetic dataset, increasing sophistication over prior work with Gaussian weighted sampling</li><li>• Assisted building and troubleshooting colorization user-interface endpoint, ensuring seamless integration</li><li>• Achieved successful colorization of diverse natural images, showcasing the efforts of our 3-person team</li></ul>			
<b><u>Social Network for Spotify Users</u></b>	Java, SQL, React	Providence	<b>Apr 2022–May 2022</b>
<ul style="list-style-type: none"><li>• Fashioned social media platform addressing Spotify's limited inter-user interactions with 4 partners</li><li>• Led development of privacy-focused song preference database system</li><li>• Assisted a team member in merging song search subproject, which used different stack, into main tree</li><li>• Created interface to communicate with React front-end in close collaboration with team member</li></ul>			
<b><u>Bullet-time Camera System</u></b>	Rust, C	Los Angeles	<b>Aug 2020–Jan 2021</b>
<ul style="list-style-type: none"><li>• Concocted real-time protocol from Rust networking primitives to deliver image stream and stills</li><li>• Constructed image processing pipeline featuring custom fiducial tag format to synthesize stable video</li><li>• Resolved artificial USB webcam bandwidth limitation by maintaining modified kernel module</li><li>• Identified and addressed bugs in multiple software packages, including the Linux kernel</li></ul>			
<b><u>LAUSD Password Exploit</u></b>	Python	Los Angeles	<b>Sep 2020–Dec 2020</b>
<ul style="list-style-type: none"><li>• Discovered password vulnerability endangering confidential student grade and family info</li><li>• Pair programmed proof of concept Python script demonstrating feasibility and potential impact of exploit</li><li>• Compiled comprehensive report recommending solutions and communicated findings to LAUSD IT</li><li>• Eliminated critical privacy risk facing the 500,000+ student district</li></ul>			

## Experience

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<b><u>CSCI 0200</u></b>	Undergraduate Teaching Assistant	Providence	<b>Jan 2023–Dec 2023</b>
<ul style="list-style-type: none"><li>• Revamped 2 lab assignments teaching data structures and algorithms, improving clarity and focus</li><li>• Conducted in-person office hours and lab sessions to provide effective support and address student queries</li><li>• Assisted students with code design and offered meaningful one-on-one code review sessions</li><li>• Graded assignments for a class of 415+ students and provided constructive feedback</li></ul>			
<b><u>FRC Team 980</u></b>	Lead Developer	Burbank	<b>Mar 2019–Aug 2020</b>
<ul style="list-style-type: none"><li>• Coordinated <u>robot code</u> development and assigned subassembly roles to optimize team strengths</li><li>• Fabricated <u>prototype</u> dependency-free optical character recognition 'scouting' app in Java</li><li>• Taught 6 pre-secondary students Mindstorms robot building in our 2019 STEM Camp</li><li>• Designed daily virtual quiz and scavenger hunt activities to engage 50+ students in daily learning</li></ul>			

## Skills and Interests

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**Technical Skills:** Rust (Advanced), Unix (Native), Java (Proficient), JavaScript (Proficient), Python (Proficient), C (Proficient), Git (Proficient), TensorFlow (Intermediate), SQLite (Intermediate), React (Intermediate)

**Interests:** Running, Educational Podcasts, Consciousness, Vim, Strategy Board Games