Software Developing: Automating with Low-Code Solutions
(Technical Report)

Responding to the Threat They Created: Software Engineers and Automated
Software Development
(Sociotechnical Research Paper)

An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Computer Science

by

Andrew Shin

May 9, 2024

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Preface

How can computer science programs better prepare their students for careers transformed by cheap, abundant and powerful artificial intelligence? With a successful answer to this problem, universities can better prepare their graduates and elevate their own programs' stature.

How can an informative automation course better prepare undergraduate students for rapidly evolving careers in STEM? University curricula typically do not offer students opportunities to learn about the social implications of artificial intelligence or how to use AI in assignments, preferring to discourage its usage by default. An introductory course can prepare students in all fields to use AI effectively and responsibly. Such a course was developed and prototyped through curriculum analysis and student interviews. Future researchers can improve the proposed course and offer it to university departments for experimental implementation.

In the US since 2020, how have entry-level software engineers adapted as AI tools evolve and modify software development? As AI tools proliferate, software engineers need a strong foundation in critical reasoning and ethics to manage their implications. Curricula in higher education must offer students this foundation. Being prepared for the adoption of artificial intelligence is paramount to determine the role AI will have within our future.