### DEEP LEARNING APPLICATIONS IN POPULATION GENETICS

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A dissertation submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Program of Bioinformatics and Computational Biology in the Department of Genetics in the School of Medicine.

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## **ABSTRACT**

LOGAN SCOTT WHITEHOUSE: Deep Learning Applications in Population Genetics (Under the direction of Daniel Schrider)

Population genetics...

To my wife, Christy, for reminding me to have fun when I work too much, despite being the reason I work.

To my family, without whom I would have never made it here in the first place.

And to my friends, too many to name, who still don't understand what I do but listen to me anyway.

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This thesis and the work within would not have been possible, or would have been substantially worse, without the help of many people who contributed their time and efforts.

First and foremost thank you to Dr. Dan Schrider, who accepted me as is first graduate student despite having no experience in population genetics, for his incredible depth of knowledge and guidance during these past 5 years. KFTC.

Thank you to everyone in the Schrider lab, past and present, for being wonderful colleagues, mentors, and friends.

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## LIST OF ABBREVIATIONS

ABD All But Dissertation

I/O Input/Output

IPC Inter-Process Communication

IPI Inter-Processor Interrupt

WSS Working Set Size

AYO Add Your Own in alphabetic order...

### **CHAPTER 1: INTRODUCTION**

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### **CHAPTER 2: A SUBSTANTIVE CHAPTER**

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#### APPENDIX A: AN APPENDIX

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#### APPENDIX B: A SECOND APPENDIX

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# **BIBLIOGRAPHY**