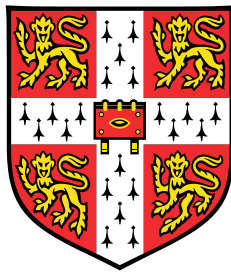


# Using 3D image data to improve 2D Brightfield image segmentation

## A method of 3D projection



**Nicholas Piano**

Department of Engineering  
University of Cambridge

This dissertation is submitted for the degree of  
*Master of Philosophy*



I would like to dedicate this thesis to my long-suffering supervisor, Y. Y. "Shery" Huang, for her help and advice. Without her guidance, this would not have been possible.



## **Declaration**

I hereby declare that except where specific reference is made to the work of others, the contents of this dissertation are original and have not been submitted in whole or in part for consideration for any other degree or qualification in this, or any other university. This dissertation is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in the text and Acknowledgements. This dissertation contains fewer than 15,000 words including appendices, bibliography, footnotes, tables and equations and has fewer than 150 figures.

Nicholas Piano  
November 2015



## **Acknowledgements**

And I would like to acknowledge the support and patience of my parents, my colleague Cristina Bertulli, and Xiaohao Cai.





## **Abstract**



# Table of contents

<b>List of figures</b>	<b>xiii</b>
<b>1 Introduction</b>	<b>1</b>
1.1 . . . . .	1
<b>2</b>	<b>3</b>
<b>3</b>	<b>5</b>
<b>4</b>	<b>7</b>
<b>5</b>	<b>9</b>
<b>6</b>	<b>11</b>
<b>7</b>	<b>13</b>
<b>8</b>	<b>15</b>
<b>References</b>	<b>17</b>



## List of figures



# **Chapter 1**

## **Introduction**

### **1.1**





## **Chapter 2**



## **Chapter 3**



## **Chapter 4**



## **Chapter 5**





## **Chapter 6**



## **Chapter 7**



## **Chapter 8**



## References

