

Multi-agent Collaborative Path Planning

Computer Engineering Master Thesis

Kristoffer Plagborg Bak Sørensen and Jens Høigaard Jensen

Department of Electrical and Computer Engineering

Aarhus University

Aarhus, Denmark

{201908140, 201907928}@post.au.dk

18-04-2024

Bloop

Supervisor: Andriy Sarabakha

Co-supervisor: Jonas le-Fevre Sejersen

{andriy, jonas.le.fevre}@ece.au.dk



Abstract **0**

Abstract

Preface **0**

Preface

Nomenclature **0**

Nomenclature

- ◆ Interior Mutability
- ◆ `Test<T>` denotes a generic type T
- ◆ Every capital letter in `monospace` is some type. A type in rust is either a struct or an enum

Contents

Abstract	i
Preface	i
Nomenclature	i
1. Introduction	1
2. Background	1
2.1. Factor Graphs	1
2.1.1. Message Passing	1
2.2. Gaussian Belief Propagation	1
2.3. RRT	1
3. Methodology	1
3.1. Implementation Language	2
3.1.1. Why did we choose Rust?	2
4. Results	2
5. Discussion	2
6. Conclusion	2

Introduction 1

1. Introduction

Background 2

2. Background

2.1. Factor Graphs

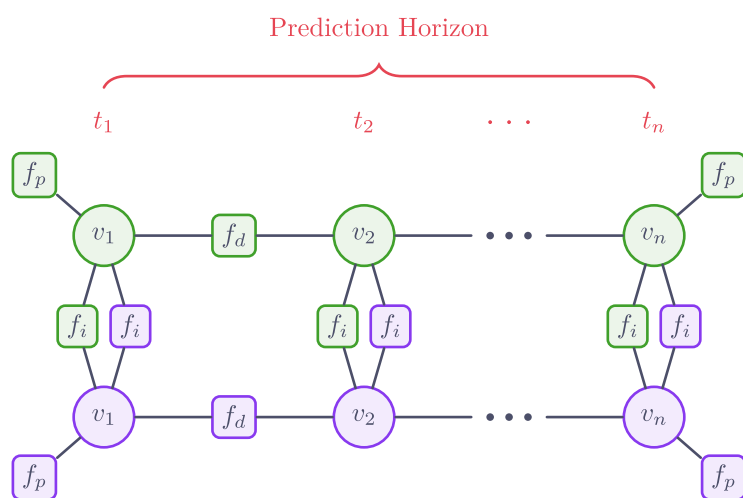


Figure 1. Factor Graph.

2.1.1. Message Passing

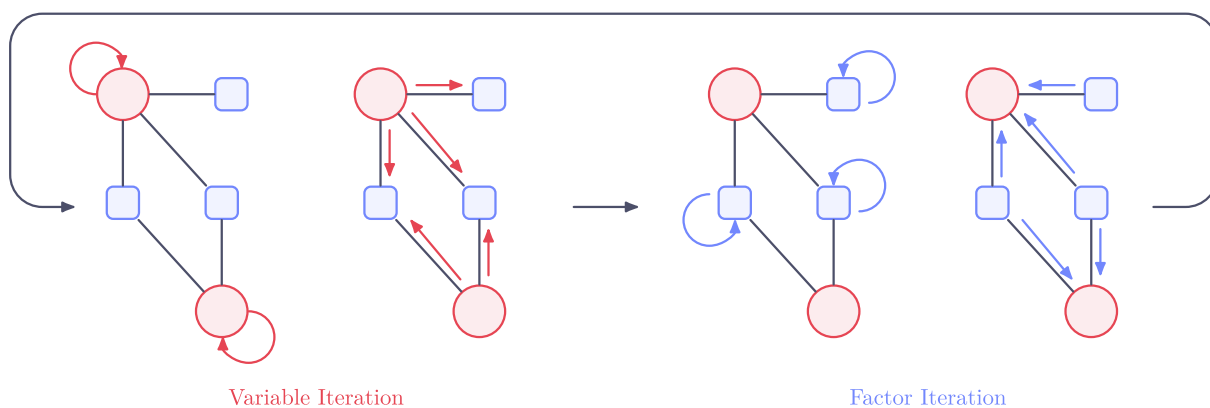


Figure 2. Message Passing.

2.2. Gaussian Belief Propagation

2.3. RRT

Methodology 3

3. Methodology

3.1. Implementation Language

3.1.1. Why did we choose Rust?

◆ `gbpplanner` is implemented in C++. We are both familiar with C++, but have in previous projects spent a lot of time fighting its idiosyncrasies

Results 4

4. Results

Discussion 5

5. Discussion

Conclusion 6

6. Conclusion
