# Madlang – a Domain-Specific Language for Generating Text with Markov Chains

## Vanessa McHale

## March 19, 2017

#### Abstract

We present madlang, a Domain-Specific Language (DSL) for easily readable markov chains and templating random text. The language enables quick, easy

# Contents

1	Introduction	1
	1.1 Definitions	1
	1.2 Generating random text with Markov Chains	2
2	Markov Chains to generate text	2
	2.1 Human-readable markov chains	2
	2.2 Twitter bots	2
3	Macros for existing programming languages	2
	3.1 Selecting a path with madlang	2
	3.2 Parsing paths generated with madlang	2
4	Templating Text	2
A	Language specifications	2
В	Interpreter mechanics	2
	B.1 Parser	2
	B.2 Evaluation	2

# 1 Introduction

### 1.1 Definitions

**Definition 1.1.** Markov chain A markov chain is a sequence of random variables  $X_1, X_2, \ldots$  such that  $\pi(X_i|X_{i-1}) = \pi(X_{i+1}|X_i)$ .

- 1.2 Generating random text with Markov Chains
- 2 Markov Chains to generate text
- 2.1 Human-readable markov chains
- 2.2 Twitter bots
- 3 Macros for existing programming languages
- 3.1 Selecting a path with madlang
- 3.2 Parsing paths generated with madlang
- 4 Templating Text
- A Language specifications
- B Interpreter mechanics
- B.1 Parser
- **B.2** Evaluation