

# Visual Memory

by

Christopher James Kellogg

Submitted to the Department of Electrical Engineering and Computer Science  
in partial fulfillment of the requirements for the degrees of

Bachelor of Science  
and  
Master of Science in Computer Science

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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## Abstract

Visual memory supports computer vision applications by efficiently storing and retrieving spatiotemporal information. It is a unique combination of databases, spatial representation and indexing, and temporal representation and indexing. This thesis designs a visual memory architecture that meets the requirements of a number of computer vision applications. It also presents an implementation of part of this design in support of a scene monitoring prototype.

Thesis Supervisor: Alex P. Pentland

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# Contents

<b>1</b>	<b>Introduction</b>	<b>9</b>
1.1	Needs for Visual Memory . . . . .	9
1.2	Goals . . . . .	10
<b>2</b>	<b>Background</b>	<b>11</b>
2.1	Database Research . . . . .	11
2.1.1	DARPA Open OODB . . . . .	11
2.1.2	POSTGRES . . . . .	12
2.2	Spatial Research . . . . .	13
2.2.1	CODGER . . . . .	13
2.2.2	Core Knowledge System . . . . .	13
2.2.3	ISR . . . . .	14
2.2.4	Image Understanding Environments . . . . .	14
2.2.5	PROBE . . . . .	14
2.2.6	Spatial Indices . . . . .	15
2.3	Temporal Research . . . . .	15
2.3.1	TQuel . . . . .	15
2.3.2	Temporal Sequences . . . . .	16
2.3.3	Temporal Sets . . . . .	16
2.3.4	Relative Time . . . . .	17
2.3.5	Temporal Indices . . . . .	17

<b>3</b>	<b>Design</b>	<b>18</b>
3.1	Requirements and Considerations . . . . .	19
3.1.1	Database Considerations . . . . .	19
3.1.2	Spatial and Temporal Considerations . . . . .	20
3.1.3	Performance Considerations . . . . .	20
3.2	Design Overview . . . . .	22
3.3	Spatial Representations . . . . .	24
3.3.1	Core Spatial Classes . . . . .	24
3.3.2	Relative Spatial Specification . . . . .	29
3.3.3	Uncertain Spatial Specification . . . . .	31
3.4	Temporal Representations . . . . .	36
3.4.1	Core Temporal Classes . . . . .	36
3.4.2	Relative Temporal Specification . . . . .	40
3.4.3	Uncertain Temporal Specification . . . . .	41
3.5	Spatiotemporal Representations . . . . .	45
3.6	Object Storage . . . . .	50
3.6.1	Identity . . . . .	50
3.6.2	Storage Mechanism . . . . .	51
3.6.3	Time . . . . .	52
3.7	Queries . . . . .	53
3.7.1	Query Mechanism . . . . .	53
3.7.2	Spatial Queries . . . . .	54
3.7.3	Temporal Queries . . . . .	57
3.7.4	Spatiotemporal Queries . . . . .	59
3.8	Indices . . . . .	64
3.8.1	Mechanism . . . . .	64
3.8.2	Spatial Indices . . . . .	65
3.8.3	Temporal Indices . . . . .	66
3.8.4	Spatiotemporal Indices . . . . .	66

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