

# Cyberspace Library

LaTeX-Style Directory Tree  
The font of Cyberspace: IBM Plex

January 2, 2026

**312 research papers** indexed with  
**LaTeX makeindex-style KWIC permutation**  
Deduplicated, cross-referenced, hierarchical

## Library Structure

### Index & Metadata

`index.html`

**7,474 lines PDFs** — Permutated KWIC Index

- ▷ 312 PDFs indexed with clickable links
- ▷ Deduplicated, alphabetically sorted A–Z
- ▷ LaTeX makeindex style formatting

### Collections

#### Root Collection — **186 PDFs**

The primary collection spans multiple research domains:

##### **Computer Architecture & Systems**

- Apollo Guidance Computer - BLOCK I
- ARM system-on-chip architecture
- Intel 64 and IA-32 Architectures
- Hardware Memory

##### **Programming Languages**

- LISP I Programmers Manual (1960)
- Bluebook Smalltalk80

- The Next 700 Programming Languages
- Understanding and writing compilers

##### **Distributed Systems**

- MapReduce on Large Clusters
- In Search of Understandable Consensus
- HyperDex Key-Value Store
- Deconstructing the Database

##### **Software Engineering**

- Clean Code
- Refactoring (Fowler)
- Designing Interactions

## Algorithms & Data Structures

- O(ND) Difference Algorithm
- Cache-Oblivious Algorithms
- Index Compression

## Type Theory - FP - PLT/ — 47 PDFs

### Type Theory Foundations

- Cardelli: Types
- Type Theory and Functional Programming
- Proofs and Types
- Martin-Löf Type Theory
- Theory of Programs

### Type Systems

- Type Inference For Recursive Definitions
- Practical Type Inference (Success Typings)
- Strong Types for Relational Data
- Generalized Constraints (C# Generics)

### Dependent Types & Termination

- Type-based termination
- Realizability to Induction

- Typed lambda calculus implementation

### Advanced Features

- Polymorphic variants
- Session Types
- Gradual Typing in JavaScript/ECMAScript
- Negative and Fractional Types

### Functional Programming

- Liberated from von Neumann Style
- Why Functional Programming Matters
- Bananas, Lenses, Envelopes, Barbed Wire
- A cosmology of datatypes

### Category Theory

- Category Theory for Computing Science
- Homotopy is not concrete

## shared-tech-resources/ — 36 PDFs

Cross-cutting theoretical foundations:

- \* Bird & Wadler: Intro to FP
- \* PFPL (Harper)
- \* Fundamental Concepts in PLs
- \* CPDT (Certified Programming)
- \* How to Design Programs
- \* Communicating Sequential Processes
- \* Purely Functional Data Structures
- \* QuickCheck: Random Testing
- \* Domain Specific Languages
- \* Traits: Behavioral Building Blocks

## Cryptology/ — 13 PDFs

- ▷ Handbook of Applied Cryptology
- ▷ Security Engineering (Anderson)
- ▷ High-speed high-security signatures
- ▷ MD5 Collision Attacks (5 papers)

- ▷ Dual EC DRBG Cryptanalysis
- ▷ Windows RNG Cryptanalysis
- ▷ KALE (AES variant)

### **infosec/ – 11 PDFs**

- ▷ Metasploit: Penetration Tester's Guide
- ▷ Intro to Shellcoding
- ▷ Console Hacking (Chaos 2010)
- ▷ Stealth malware attacks survey
- ▷ MIFARE Classic attack
- ▷ TCP DoS analysis

### **software/ – 16 PDFs**

- OS Construction in Haskell
- Meyer: Object Oriented Construction
- Clean Code
- Binary code obfuscation (C++ templates)
- System V ABI AMD64
- malloc(3) for FreeBSD
- Final Fantasy VII Game Engine

### **Additional Collections**

**computer arch/ 4 PDFs** – Hypercomputation, Cache-Oblivious, 3D reconstruction

**computer graphics/ 3 PDFs** – 3D manipulation, projection, mathematical intro

**misc/ 3 PDFs** – Mathematician's Lament, Taleb's Antifragile

## Summary Statistics

<b>Total PDFs:</b>	312
<b>Root Collection:</b>	186 PDFs (60%)
<b>Subdirectories:</b>	8
<b>By Topic:</b>	
Type Theory / FP / PLT	47 PDFs (15%)
shared-tech-resources	36 PDFs (12%)
software	16 PDFs (5%)
Cryptology	13 PDFs (4%)
infosec	11 PDFs (4%)
computer arch	4 PDFs (1%)
computer graphics	3 PDFs (1%)
misc	3 PDFs (1%)
<b>Permuted Index:</b>	
File	library/index.html
Lines	7,474
Keywords indexed	~2,500+
Deduplication	Yes (sort -u on keyword+title)
Format	LaTeX makeindex style KWIC
Navigation	A–Z letter sections + internal links

## Regeneration & Maintenance

### Command:

~/cyberspace/bin/generate-library-index

### When to Regenerate:

- After adding or removing PDFs from library
- When directory structure changes
- When updating related documents

### Documentation:

Auto-documented in ~/cyberspace/CLAUDE.md

## Version Control

<b>Repository:</b>	github.com/ddp/cyberspace
<b>Branch:</b>	main
<b>Last Commit:</b>	4ab84f5 (Library tree visualization)
<b>Status:</b>	✓ Synced with GitHub

Generated January 2, 2026 by **Claude Code Librarian**  
Part of the *Cyberspace Project*  
<https://github.com/ddp/cyberspace>