Formats des instructions RISCV, sous-ensemble RV32IM

31	25 24	20 19	15 14	12 11	7 6	0	
funct7	rs2	rs1	funct3	rd		opcode	R-type
imm[11:0]		rs1	funct3	rd		opcode	I-type
imm[11:5]	rs2	rs1	funct3	imm[4:0]		opcode	S-type
imm[12|10:5]	rs2	rs1	funct3	imm[4:1|11]		opcode	B-type
imm[31:12]				rd		opcode	U-type
imm[20|10:1|11|19:12]				rd		opcode	J-type

Codage des instructions RV32IM

imm[31:12]				rd		0110111	lui
imm[31:12]				rd		0010111	auipc
imm[20|10:1|11|19:12]				rd		1101111	jal
imm[11:0]		rs1	000	rd		1100111	jalr
imm[12|10:5]	rs2	rs1	000	imm[4:1|11]		1100011	beq
imm[12|10:5]	rs2	rs1	001	imm[4:1|11]		1100011	bne
imm[12|10:5]	rs2	rs1	100	imm[4:1|11]		1100011	blt
imm[12|10:5]	rs2	rs1	101	imm[4:1|11]		1100011	bge
imm[12|10:5]	rs2	rs1	110	imm[4:1|11]		1100011	bltu
imm[12|10:5]	rs2	rs1	111	imm[4:1|11]		1100011	bgeu
imm[11:0]		rs1	000	rd		0000011	lb
imm[11:0]		rs1	001	rd		0000011	lh
imm[11:0]		rs1	010	rd		0000011	lw
imm[11:0]		rs1	100	rd		0000011	lbu
imm[11:0]		rs1	101	rd		0000011	lhu
imm[11:5]	rs2	rs1	000	imm[4:0]		0100011	sb
imm[11:5]	rs2	rs1	001	imm[4:0]		0100011	sh
imm[11:5]	rs2	rs1	010	imm[4:0]		0100011	sw
imm[11:0]		rs1	000	rd		0010011	addi
imm[11:0]		rs1	010	rd		0010011	slti
imm[11:0]		rs1	011	rd		0010011	sltiu
imm[11:0]		rs1	100	rd		0010011	xori
imm[11:0]		rs1	110	rd		0010011	ori
imm[11:0]		rs1	111	rd		0010011	andi
0000000	shamt	rs1	001	rd		0010011	slli
0000000	shamt	rs1	101	rd		0010011	srli
0100000	shamt	rs1	101	rd		0010011	srai
0000000	rs2	rs1	000	rd		0110011	add
0100000	rs2	rs1	000	rd		0110011	sub
0000000	rs2	rs1	001	rd		0110011	sll
0000000	rs2	rs1	010	rd		0110011	slt
0000000	rs2	rs1	011	rd		0110011	sltu
0000000	rs2	rs1	100	rd		0110011	xor
0000000	rs2	rs1	101	rd		0110011	srl
0100000	rs2	rs1	101	rd		0110011	sra
0000000	rs2	rs1	110	rd		0110011	or
0000000	rs2	rs1	111	rd		0110011	and
0011000	00010	00000	000	00000		1110011	mret
0000001	rs2	rs1	000	rd		0110011	mul
0000001	rs2	rs1	001	rd		0110011	mulh
0000001	rs2	rs1	010	rd		0110011	mulhsu
0000001	rs2	rs1	011	rd		0110011	mulhu
0000001	rs2	rs1	100	rd		0110011	div
0000001	rs2	rs1	101	rd		0110011	divu
0000001	rs2	rs1	110	rd		0110011	rem
0000001	rs2	rs1	111	rd		0110011	remu