AI_START_HERE

CRITICAL: Ada SPARK is the PRIMARY Implementation Language

STUNIR uses Ada SPARK as its DEFAULT and PRIMARY implementation language.

Python files exist only as reference implementations for readability. For all operations:
- Use Ada SPARK tools (`tools/spark/`) as the primary implementation
- Python tools (`tools/*.py`) are fallback/reference only
- All build scripts default to Ada SPARK

Quick Navigation

Canonical entrypoint: `ENTRYPOINT.md` (ENTRYPOINT.md)

Primary Tools (Ada SPARK)

- **Spec to IR**: `tools/spark/bin/stunir_spec_to_ir_main`
- **IR to Code**: `tools/spark/bin/stunir_ir_to_code_main`
- **Build**: See `tools/spark/README.md` for building Ada SPARK tools

Reference Implementations (Python - NOT for production)

- `tools/spec_to_ir.py` - Reference only
- `tools/ir_to_code.py` - Reference only

Rationale

Ada SPARK was chosen as the primary language because:
1. **Formal Verification**: SPARK proofs guarantee absence of runtime errors
2. **Determinism**: Predictable execution for reproducible builds
3. **Safety**: Strong typing prevents entire classes of bugs
4. **DO-178C Compliance**: Industry standard for safety-critical systems
5. **Performance**: Native compilation, no interpreter overhead

If you are an agent/human trying to orient yourself in this repository, open `ENTRYPOINT.md` (ENTRYPOINT.md).