



# Broccoli, LLC

## Capability Statement

Broccoli develops efficient configurable platforms for digital signal processing on the edge, specializing in the design of complex and non-deterministic control structures to optimize compute architecture for non-uniform program workload characteristics.

### Core Competencies

- Digital Signal Processing
- Program Workload Analysis for Circuit Optimization
- Configurable Array Architectures
- Custom Timed Circuits
- Pre and Post Silicon Validation
- Chip Tapeout
- Compiler Design

### Company Information

Broccoli, LLC est. Indiana 2021

**Web:** <https://www.broccolimicro.io>

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Bloomington IN, 47403

**DUNS:** 118489606

**CAGE:** 9B2J7

**UEI:** XYJSR51DYM49

**NAICS:** 334413, 541512, 541715

**PSC:** AC33, AJ13

### Differentiators

- Self-Timed Circuits Expertise
- Non-Deterministic Circuits Expertise

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### Past Performance

- Self-Timed Length Adaptive Arithmetic  
Supported by CCF-1065307, CCF-1617945, N00014-13-1-0419, FA8750-15-1-0173
- A Systematic Approach for Arbitration Expressions [ [doi.org/10.1109/TCSI.2020.3011552](https://doi.org/10.1109/TCSI.2020.3011552) ]
- Self-Timed Adaptive Digit-Serial Addition [ [doi.org/10.1109/TVLSI.2019.2918441](https://doi.org/10.1109/TVLSI.2019.2918441) ]
- QDI Constant Time Counters [ [doi.org/10.1109/TVLSI.2018.2867289](https://doi.org/10.1109/TVLSI.2018.2867289) ]
- Open lecture series on Self-Timed Circuits [ [github.com/nbingham1/async-course](https://github.com/nbingham1/async-course) ]
- Open source tools for Synthesis of Self-Timed Circuits [ [github.com/nbingham1/haystack](https://github.com/nbingham1/haystack) ]
- Contributions to open source tools for Self-Timed Circuit Design [ [github.com/asyncvlsi/act](https://github.com/asyncvlsi/act) ]