

DECLARATION FOR PROVISIONAL PATENT APPLICATION

Docket Number: RUTHERFORD-016-PROV

Title of Invention: DELIBERATE ERROR TOLERANCE ARCHITECTURE (DETA) FOR ULTRA-LOW LATENCY QUANTUM-INSPIRED THREAT DETECTION WITH CONTROLLED ACCURACY TRADEOFFS

INVENTOR'S DECLARATION

As the below-named inventor, I hereby declare that:

Inventorship

I believe that I am the original and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DELIBERATE ERROR TOLERANCE ARCHITECTURE (DETA) FOR ULTRA-LOW LATENCY QUANTUM-INSPIRED THREAT DETECTION WITH CONTROLLED ACCURACY TRADEOFFS

The specification of which:

☒ **is attached hereto**

☐ was filed on _____ as Application No. _____

☐ was amended on _____ (if applicable)

Residence and Citizenship

Legal Name: Brian James Rutherford

Residence: 6 Country Place Drive, Wimberley, TX 78676-3114

Citizenship: United States of America

Post Office Address: 6 Country Place Drive, Wimberley, TX 78676-3114

Prior Disclosures

I hereby state that I have reviewed and understood the contents of the specification, including the claims, as originally filed.

Prior Public Disclosures:

☒ This invention has **NOT** been publicly disclosed

☐ This invention was disclosed on: _____

Prior Patent Applications:

☒ This is the **FIRST** patent application for this invention

☐ Prior application(s) filed: _____

Duty of Disclosure

I acknowledge my duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including:

1. Prior art references known to me
2. Related applications or patents
3. Sales, offers for sale, or public use of the invention
4. Relevant publications or disclosures

Understanding of Provisional Application

I understand that:

1. This provisional application will **NOT** be examined on its merits
2. It establishes a priority date for the invention
3. A non-provisional application must be filed within 12 months to claim benefit
4. The provisional application will be abandoned after 12 months
5. No patent will issue directly from this provisional application

Truthfulness Statement

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five years, or both.

Specific Declarations for This Invention

I declare that:

1. **Novel Concept:** The deliberate acceptance of 0.1-1% error rates as a design feature for achieving 100-1000x latency reduction in quantum-inspired computing is my original invention
2. **No Derivation:** I have not derived this invention from any other source, publication, or person
3. **Technical Innovation:** The specific combination of:
 - Predictive quantum state cache with 1 million pre-computed states
 - 50-nanosecond syndrome extraction
 - Room-temperature photonic processor with 256 MZIs
 - Dynamic error tolerance based on threat criticalityrepresents my original technical contribution

4. **Cybersecurity Application:** The application of deliberate error tolerance specifically to cybersecurity threat detection with sub-10ms response times is my innovation
5. **No Prior Art Knowledge:** To the best of my knowledge, no existing quantum computing system deliberately maintains 0.1-1% error rates as an optimization parameter

Authorization and Power of Attorney

For this provisional application:

- ☒ I am proceeding **pro se** (without attorney representation)
- ☐ I hereby appoint _____ as my attorney/agent

Information Disclosure

I acknowledge that I have a continuing duty to disclose material information throughout the pendency of any non-provisional application claiming benefit of this provisional filing.

Known relevant references: None at this time beyond those cited in the specification

Small Entity / Micro Entity Status

I hereby certify that:

- ☒ I qualify for **MICRO ENTITY** status under 37 CFR 1.29
- ☒ I have not assigned, granted, or conveyed (nor am under obligation to do so) a license or other ownership interest to an entity that does not qualify for micro entity status
- ☒ My gross income in the previous calendar year (2024) did not exceed the threshold for micro entity status (\$223,740 for 2025)
- ☒ I have not been named as inventor on more than 4 previously filed patent applications

Claims and Specification Review

I declare that:

1. I have reviewed the entire specification, including all 20 claims
2. I understand the scope of protection sought
3. I believe I am entitled to a patent on the claimed invention
4. The technical descriptions accurately represent my invention
5. All technical specifications and performance metrics stated are based on my design and/or testing

Best Mode

I acknowledge the requirement to disclose the best mode contemplated for carrying out the invention at the time of filing, and declare that:

☒ The specification discloses what I believe to be the best mode of the invention

Foreign Filing

☒ No foreign patent applications have been filed on this invention

☐ Foreign applications filed/to be filed in: _____

I understand that if I wish to file foreign applications, I must do so within 12 months of this provisional filing date to claim priority.

WARNING

Willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE

All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true. I further acknowledge that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

Legal Name: Brian James Rutherford

Signature: /Brian James Rutherford/

Date: [Current Date]

Email: Actual@ScrappinR.com

Telephone: (512) 648-0219

WITNESS (Optional for Provisional)

Although not required for provisional applications, if desired:

Witness Name: _____

Signature: _____

Date: _____

END OF DECLARATION

Note: This declaration is specifically formatted for provisional patent applications. A more formal oath/declaration will be required for the non-provisional filing.