Advance Machine learning on optical communication

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1. INTRODUCTION

See Style Guide and Manuscript Templates In recent years, the use of machine learning techniques in various fields has revolutionized the way we approach complex problems. One area that has seen significant growth is the fitness industry, where personalized fitness apps using machine learning are becoming increasingly popular.

In this demo article, we showcase a personalized fitness app that utilizes machine learning techniques to create tailored workout plans for individual users. The app incorporates data from wearable fitness trackers, as well as user-inputted information such as fitness goals and preferences, to generate personalized workout recommendations and feedback.

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A. Demo Figure

Figure 1 shows an example figure.

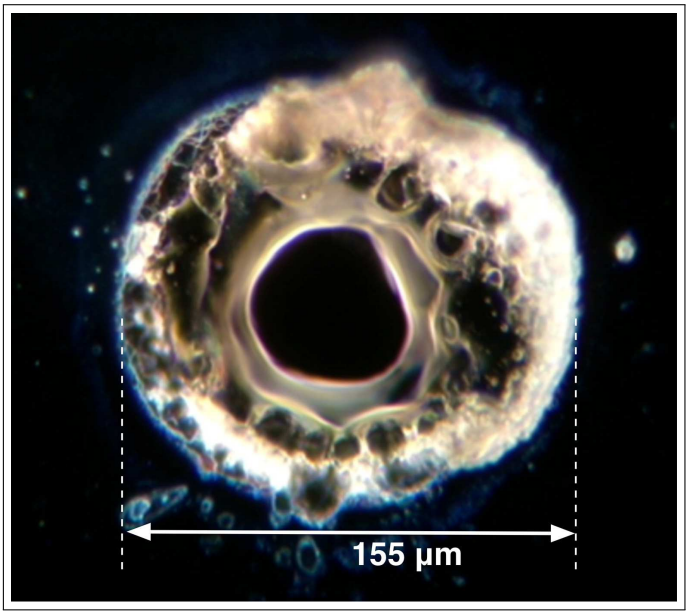

Fig. 1. Dark-field image of a point absorber.

B. Sample Table

Table 1 shows an example table.

Table 1. Shape Functions for Quadratic Line Elements

local node	abcd	(i)
$m = 1$	$(i = z)$	Φ_{i1}
$m = 2$	$(i = x)$	Φ_{i2}
$m = 3$	$(i = y)$	Φ_{i3}

3. SAMPLE ALGORITHM

Algorithms can be included using the commands as shown in algorithm 1.

Algorithm 1. Euclid's algorithm

```
1: procedure EUCLID(a, b)          ▷ The g.c.d. of a and b
2:     r ← a mod b
3:     while r ≠ 0 do              ▷ We have the answer if r is 0
4:         a ← b
5:         b ← r
6:         r ← a mod b
7:     return b                    ▷ The gcd is b
```

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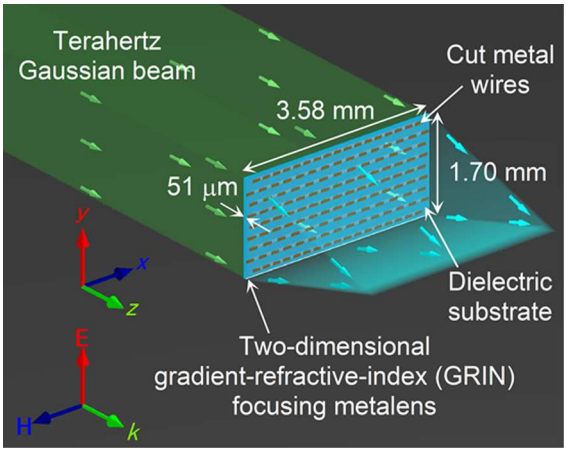

Fig. 2. Terahertz focusing metalens.

B. Sample Dataset Citation

1. M. Partridge, "Spectra evolution during coating," figshare (2014), http://dx.doi.org/10.6084/m9.figshare.1004612.

C. Sample Code Citation

2. C. Rivers, "Epipy: Python tools for epidemiology," Figshare (2014) [retrieved 13 May 2015], http://dx.doi.org/10.6084/m9.figshare.1005064.

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