



An integrated brain-machine interface platform...

Link: <https://www.biorxiv.org/content/10.1101/703801v2>

Elon Musk, Neuralink

Abstract

Brain-machine interfaces (BMIs) hold promise for the restoration of sensory and motor function and the treatment of neurological disorders, but clinical BMIs have not yet been widely adopted, in part because modest channel counts have limited their potential. In this white paper, we describe Neuralink's first steps toward a scalable high-bandwidth BMI system. We have built arrays of small and flexible electrode "threads", with as many as 3,072 electrodes per array distributed across 96 threads. We have also built a neurosurgical robot capable of inserting six threads (192 electrodes) per minute. Each thread can be individually inserted into the brain with micron precision for avoidance of surface vasculature and targeting specific brain regions. The electrode array is packaged into a small implantable device that contains custom chips for low-power on-board amplification and digitization: the package for 3,072 channels occupies less than $(23 \times 18.5 \times 2)$ mm³. A single USB-C cable provides full-bandwidth data streaming from the device, recording from all channels simultaneously. This system has achieved a spiking yield of up to 85.5 % in chronically implanted electrodes. Neuralink's approach to BMI has unprecedented packaging density and scalability in a clinically relevant package.

See Full Text at: <https://www.biorxiv.org/content/10.1101/703801v2.full>

Presidents Corner

Thank you everyone for taking the time to read this month's newsletter. I also hope to see you at the meeting on November 19th.

Please, let us know what you want to see for a Demo!

Apple Barrel (at Sapp Bros.)
2608 S. 24th St.
Council Bluffs, Iowa
MEETING BEGINS: 7 PM

Minutes of October 15, 2019 Meeting

Meeting called to order at 7 P.M. at Apple Barrel Restaurant in Council Bluffs, IA with 8 members present

First Drawing

The \$10 drawing was won by Kevin Holloway.

Minutes and Treasury Report

Minutes of the September 2019 meeting were read. The minutes were approved as read. Treasurers Report was read and approved by those present at the meeting.

Old Business

Two more tickets were sold for the \$100 raffle leaving us with seven tickets remaining.

We need need demo ideas! (email – how it works behind the scenes, PowerPoint with 3D, web site optimizations)

New Business

The annual club Christmas Party was brought up for date, the only date available at the church is December 21st for 2019. The members present voted in favor to proceed with this date. Remember, we don't have a regular club meeting in December, just the party. Primary food chicken and ham (with pineapple) which will provided by the club. Beyond that, the standard pot luck for the supplemental dishes. Please let Kevin Holloway know what you plan to bring if at all possible.

Demo

David Ladd gave us the demo on how to do an upgrade from an older disk to a new disk with more capacity using a utility like **Macrium Reflect**, and showed us how this can be done by using the old **nix* standby utility called "**dd**" to copy the data along with "**gparted**" to use the extra space after the copy is done. Nice to be able to do this stuff yourself for upgrades and/or backup purposes!

Stick-Around Drawing

The stick around drawing (\$3.50) was won by David Ladd.

Adjourned

With no further business the meeting was adjourned.

Minutes recorded by Bruce 10/15/2019

M.A.P.C.C.

Established 1982

The Metro Area Personal Computer Club Newsletter is published monthly and posted on the club website: <http://www.mapcc.com>

Meetings:

3rd Tuesday of the month at 7 p.m.

Apple Barrel (party room)

2608 S. 24th St.

Council Bluffs, IA 51501

Elected Officers:

President: David Ladd

Vice President: Kevin Holloway

Secretary: Bruce

Treasurer: Kevin Holloway

Appointed Officers:

Newsletter Editor: Bruce

Annual Membership Dues:

Individual: \$15.00 Family: \$20.00

Club Motto:

“Pass It On”

Contact: (531) 600-8847