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FORMER CITADEL EMPLOYEE ARRESTED FOR THEFT OF FINANCIAL FIRM'S TRADE SECRETS

Hard drives recovered from canal allegedly contained effort to construct currency futures trading platform based on Citadel's proprietary model

CHICAGO — A former technology employee of Citadel, LLC, a Chicago-based financial firm, was arrested yesterday for allegedly stealing sensitive computer trade secrets from the company for his own personal use. The defendant, **Yihao Pu**, was charged with theft of trade secrets in a complaint filed in U.S. District Court, Patrick J. Fitzgerald, United States Attorney for the Northern District of Illinois, and Robert D. Grant, Special Agent-in-Charge of the Chicago Office of the Federal Bureau of Investigation, announced today.

Pu, also known as "Ben Pu," 24, of Chicago, appeared late yesterday before U.S. Magistrate Judge Maria Valdez and was ordered to remain in federal custody pending a detention hearing at 11 a.m. tomorrow in U.S. District Court.

According to the complaint affidavit, Pu began working for Citadel in May 2010 as a quantitative financial engineer. His responsibilities included working with analysts and researchers to develop and enhance certain of Citadel's proprietary trading strategies. Because of his high-level

computer skills, he was assigned various computer-based tasks, and he assisted with the trade/order placement logic and helped to debug the trading strategies after they were developed. Pu was permitted to use his office computer to access a folder stored on Citadel's servers that contained information and data related to predictions signals commonly referred to as "alphas," which are the building blocks of Citadel's automated electronic trading algorithms and strategies. The alphas use incoming market data and other information to predict the movement of investment instruments and relevant market activity.

The alphas have inherent value to Citadel's business and if another company gained access to the alphas, it might be able to develop or improve a competing business. Even if an individual trading alone obtained and made trades based on Citadel's alphas, those trades would compete with Citadel's trades and limit or eliminate the profits that Citadel could make using its proprietary trading strategies. Citadel expends extensive resources to safeguard the secrecy of its alphas and other trade secrets. Pu's work computer was programmed not to recognize such electronic storage devices as external hard drives or thumb drives, and Pu had signed a confidentiality agreement with the company, the affidavit states.

On Aug. 25, employees in Citadel's information technology department noticed and reported that Pu had an unusually large amount of data and programs associated with his user profile on Citadel's computer systems and the company began investigating his computer activities. The IT staff discovered that Pu had configured and was running two virtual computers on his Citadel computer. Pu also had downloaded several unauthorized programs, which, combined with the virtual computers, allegedly allowed him to bypass Citadel's security protocols and transfer files or data from his Citadel computer to an external storage device.

On Aug. 26, Citadel officials and attorneys confronted Pu about the unauthorized activity on his work computer and Pu insisted to them that had only uploaded academic papers and music

files from his Citadel computer to his mobile phone. Citadel attorneys asked Pu to retain all of his personal computers and electronic storage devices while the company continued its investigation, according to the complaint.

A friend of Pu's (Individual A) told agents that he was at Pu's apartment with Pu and others twice on Aug. 26. That night, Pu, Individual A and another person loaded a desktop computer, hard drives and other computer equipment into Individual A's car. On Aug. 27, Pu set up the computer equipment in Individual A's apartment and allegedly spent portions of that day and the next day "cleaning" the hard drives. About 9 p.m. on Aug. 28, Pu allegedly called Individual A and told Individual A to "just dump everything" except for one particular hard drive that Pu had earlier identified for Individual A. Individual A told agents that he drove from his apartment looking for a place to dump the computer equipment before finally throwing a bag containing the hard drives given to him by Pu over a fence into the sanitary canal off Sheridan Road near the Wilmette Harbor. The next day, Individual A gave the retained hard drive that Pu indicated was the most important to the office manager for his attorney. The same day, Individual A accompanied representatives of a private forensic investigation firm and others to the canal and he showed them where he threw the computer equipment. The next day, a diver recovered six hard drives from the canal in the same location identified by Individual A.

The charges allege that a forensic analysis revealed that thousands of files had been stored on and later deleted from one of the hard drives. The files were able to be retrieved, however, and were found to contain certain of Citadel's alpha data and other proprietary information. Other hard drives also allegedly contained proprietary information belonging to Citadel, as well as computer source code that appeared to belong to a company that Pu worked for before Citadel. This hard drive led investigators with the private forensic firm to access a website containing text files, written

in the months before Pu started working at Citadel, that allegedly appeared to outline a plan for Pu to obtain "execution data" from a computer network and use it to start a hedge fund in China.

Certain files recovered from one of the hard drives found in the canal allegedly indicated that Pu was attempting to construct a trading strategy similar to the one used by Citadel. The hard drive contained java code that appeared to be a fully functional automated trading system that: used alpha data to calculate optimal trading times; used numerical identifiers for trading instruments identical to the identifiers assigned by Citadel; and directed trading orders to an online trading account that Pu maintained. Based on Pu's trading activity, which changed dramatically and increased exponentially in August, the charges allege that Pu appeared to be attempting to use the alpha data he stole from Citadel to reverse engineer the algorithms to trade currency futures to test the system he was creating.

Citadel brought this matter to the attention of federal authorities and is fully cooperating with the investigation.

Theft of trade secrets carries a maximum penalty of 10 years in prison and a $250,000 fine. If convicted, the Court must impose a reasonable sentence under the advisory United States Sentencing Guidelines.

The government is being represented by Assistant United States Attorneys Benjamin F. Langner and Felicia Manno Alesia.

The public is reminded that a complaint contains only charges and is not evidence of guilt. The defendant is presumed innocent and is entitled to a fair trial at which the government has the burden of proving guilt beyond a reasonable doubt.

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